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Rent 'N Move: a subscription business model applied on used vehicle dealer's stock

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To my family
and to all people having supported me
during this incredible period

“When everything seems to be going against you,
remember that the airplane takes off against the wind, not with it. “

Henry Ford

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Abstract

The goal of this thesis is to investigate on how the automotive dealership business is affected by the increasing adoption of the 'as-a-service' approach for physical products, in an era in which the concept of 'owning thing' is evolving from ownership to access. In particular, we explore the actual business appeal from different perspectives, and we provide a solution. We are going to start with the automotive dealership business analysis offering an evaluation of the automotive industry: from actors involved in this study to value chain and competitive advantage highlighting how they can be affected by the shifting paradigm. Then, we move to the industry and competition analysis, zooming on Mergers Acquisition trends that are characterizing also this sector. After this focus on automotive there will be two more theoretical chapters: M&A theory with also mature industries management, and a literature view of digital transformation. The first theory part will give some interesting insights that have to be considered when a study on these kinds of sector should be started. The second part is built in order to give some findings on a macro-trend that is mouth spreading and it is affecting everyone's daily life: digital transformation.

Lastly, the idea behind this thesis is structured on a specific case study that has been designed by Engineering Ingegneria Informatica with a consultancy activity on a new client. The last chapter is created on the service proposed by the company to the client: Rent 'N Move. It is a new type of business based on a subscription service that enables car dealerships to optimize their used vehicles stock in order to be protagonist of this changing concept.

Introduction

The shift from ownership to access business models for physical products represents one of the main changes occurring in today's business environment. An increasing number of companies and consumers are engaging in alternatives to ownership in different industries. For instance, as a case study for this recent trend, we focus on the mobility sectors: the automotive industry and its sales channel are facing important revolution concerning their offers and businesses. Private car ownership in the context of increasing urbanization is generating challenges regarding environmental issues: congestion of traffic has reached highest level than ever, with the consequence of the arise of smog pollution and high costs of fuel. On top of that, the electrification of the vehicles, the connectivity, the digital transformation and the autonomous vehicles are some of the drivers that are reshaping the transportation industry. Furthermore, sharing solutions are changing consumers' behaviours and mindset that are willing to adopt an access-based consumption model. In this new scenario, the concepts of Mobility-as-a-service (MaaS) and of Integrated Mobility Platform are arising: the users want to have the control of their journey, with real time information and they look for optimized and integrated services that can solve efficiently their needs, and contemporarily they want to experience new mobility's ideas. Furthermore, new companies have entered the market by providing solutions in which the core of the business is not the mean of transport, as it used to be, but the way it is offered. This shift impacts the car-as-a-service market: the private car ownership is threatened by new vehicles access solutions, where the added value derives from the exploitation of the product use, not by its possession. The automotive industry, the world's largest single manufacturing activity concentrated, is going through this change. The entire automotive value chain is affected by the shift from car ownership to new business models, particularly the retailing sector. The European and in particular the Italian market are assisting to a radical increase of the car-as-a-service market, with the consequence of a decline in car ownership: in Italy the long-term car rental solutions adopted by private are growing with a consequence of less privately-owned vehicles, together with the diffusion of car sharing and ride sharing. In the retail automotive industry there are companies that sell new and used vehicles over a network of regional or national franchised dealership, and companies that sell replacement automotive accessories and parts (both B2B and B2C). This business is strictly related to the auto industry production levels, and so to gasoline prices, financial crisis and domestic

economy. Car dealer in the Italian market has always been characterized by family-run enterprises: recently the number of dealers operating on the market has decreased since the biggest ones have merged among each other and the smallest have been acquired by bigger dealer groups. Indeed, the dimension in the retailing sector is an important characteristic that enables dealers to increase their operating margins and so, they can invest more on innovative solutions and on digitalization of their structures, as we see later. The new context of mobility and car-as-a-service have set the dealer in front of new challenges, since the sales of the new vehicles has always been his core activity and his main source of revenue. The industry analysis clarify the ecosystem in which the dealership is operating and highlight the main issues: some opportunities are arising thanks to the digital revolution that can improve customer loyalty, and, in addition, there are players and innovative products that are threatening the role of car dealer in the future.

3. Automotive Dealership Business Analysis

3.1 Introduction

The increasing urban population and the diffusion of advanced technologies are challenging the entire transportation structure, and consequently, the private motorized mobility: several companies are providing new innovative solutions for privates that are reshaping the sector.

Starting from some push factors, then moving to new solutions, we will try to see how private car ownership is threatened by new mobility services.

The new technologic innovations such as autonomous vehicles (AV) and electrified vehicles are bringing to the traditional automotive sector several challenges. According to McKinsey analysis, and according to a high disruptive scenario, new technologies are going to increase the traditional automotive revenues thanks to the diversification of the offered services (30% more by 2030). In the future car sales are expected to grow but at a lower rate¹. By 2030 car usage is expected to be less individual privately owned, mainly due to the network that new connected cars and autonomous cars are going to create: shared motorized mobility will be considered more efficient in urban areas².

The key technological trends and drivers for the new car-as-a-service industry are:

- **Electric vehicles:** legislation especially in European Union after 2020 will boost electric vehicles sales: in Europe by 2030 the share of electric cars will be around 44% out of the total and the charging infrastructure will significantly increase. Indeed, this percentage is likely to be higher in cities with strict regulation about greenhouse gas emissions and incentives by public authorities such as discounted electricity pricing. Regarding electric vehicles, nowadays, in Europe, there are more than a million of electric cars and the market share of these vehicles would reach 3,9% of all passenger cars by 2025 and 5,4% by 2030, but the purchase price of these vehicles is still high for individuals compared to the fuel-based vehicles and it obviously hamper their diffusion³. However, companies are providing electrified vehicles inside cities through car sharing services or alternative to sales solutions, especially because policy makers

¹ McKinsey & Company, “Automotive revolution – perspective towards 2030”; 2016

² Roland Berger, Automotive Transition, “A CEO agenda for the automotive ecosystem”; 2016

³ ACEA, <https://www.acea.be/industry-topics/tag/category/electric-vehicles>

are creating strict regulations about car use inside some city centre areas, to reduce CO2 emissions, and they are moving in the direction of AV services. The cost of the battery is decreasing, compared to the launching price, and the charging stations are available especially in urban areas. The total switch to electric vehicles depends on the powertrains and on the comparison with the TCO of those vehicles: for some cars (70kW, 100 kW and 150 kW) it is more convenient (in terms of TCO) under 150 km to use electric cars.

- **Autonomous vehicles:** in Germany level 4 of autonomous driving is expected to be on the road with a speed <50km/h by 2021: in particular, Robotaxi with 2-6 seats and people mover with 7-12 seats are likely to be present in urban areas. Then, from 2021 on, the level of autonomy of driving will increase and the speed of travel too, reaching the full autonomy in all areas by 2031. 10 million driverless cars could be available inside some cities and 400 million people will use robotic car sharing by 2020⁴. Indeed, the penetration of those innovation in the market has facing several entry barriers. The degree of autonomous driving cars available on the road depends on countries and on their regulations, but almost everywhere AV level 1 (driver assistance) is accessible, while level 2 and 3 (partial automation and conditional automation) are in a pilot phase, and it is by 2030 is expected that full autonomous cars will be spread worldwide.

Regarding the private motorized mobility, as we cited above, driver preferences and behaviour are changing. The driver rate of awareness about time and money spent while driving is increasing, together with the information about the alternative mobility solutions to traditional car ownership. The Total Cost of Ownership is considered crucial to consciously take decisions about car purchase for driver. When it is referred to a vehicle, the TCO is the purchase price of an asset plus the costs of operation: when choosing among alternatives, drivers should look not just at the car short-term price, which is its purchase price, but also at its long-term price, which is its total cost of ownership. The car with the lower total cost of ownership is the better value in the long run. Indeed, strict cars' regulations inside cities and the diffusion of shared mobility solutions, are changing the relationship between the driver and its vehicles: the traditional car ownership is now partially considered by drivers as an alternative to on-demand car access, especially in highly dense urban areas where the car use is discouraged.

Furthermore, preferences of the youngest are changing: in the USA market, that is considered

⁴ ABI Research

as the precursor one in terms of trend and evolutions compared to the European area, the amount of driver's license among young people (16 to 26 years) dropped from 91,8% in 1983 to 76,7% in 2016, while car sharing members are dramatically growing over the last five years (more than 30%)⁵. According to a PwC study, in Europe people can be grouped in 3 categories, as three different personas, in relation to their behaviour to new mobility trends.

1. The *Modern persona* profile (33%) is expected to increase by 2030 of 15%: is familiar with technologies and uses smartphones regularly. According to Modern personas, car ownership is not considered as a status symbol, and he is open to change his mobility patterns for a more sustainable and healthier lifestyle. However, this refers to modern personas that lives in urban areas, since in rural ones it is more difficult to completely leave the car as a means of transport.
2. The largest group is composed by the *Transitory persona*, that in the 2017 accounted for 41% out of the total and he is expected to decrease of 5% by 2030. The youngest of the category are willing to use alternative solutions to car ownership, while the traditionally oriented user prefer owning a car for comfort and as a status symbol as well.
3. *Traditional persona* accounted in 2017 for 26% among the other Europeans, and it is going to slightly decrease by 2030 of 12%: in city often, Traditional personas use public transport to avoid traffic congestion and parking problems but doesn't use alternative car ownership solutions such as car sharing or ride pooling. The ownership of a car is considered by Traditional personas as a need, not depending on his mobility patterns. In rural areas, this persona is open to use highly technological innovations⁶.

In conclusion, by 2030 the individual motorized mobility preferences and characteristics are going to change and companies should consider this aspect by targeting the right group with the right customized solutions, following the new trends.

This change in the industry and particularly in customer's preferences, has come together with a redefinition of the automotive value chain, with the entrance of new players, the exit of existing ones, and the overlapping of some roles. In this chapter we are going to analyse the automotive industry with a special focus on its principal sales channel to understand which are

⁵ McKinsey & Company, "Automotive revolution – perspective towards 2030"; 2016

⁶ PwC, "The 2018 Strategy and Digital Auto Report. The future is here: winning carmakers balance metal and mobility"; 2018

the critical points that car dealers are facing. After some sector introductory parts, as a first step we are going to describe the automotive value chain to better understand the relationship and the power games between the different stakeholders that have a critical role in the dealer business, to lastly tick the environment in which car dealers are operating.

3.2 The Automotive industry

The automotive industry is considered as the world's largest single manufacturing activity and, since there are few companies that produce vehicles accounting for a significant share of production, it is a highly concentrated sector. According to the International Robotics & Automation Journal⁷, one dollar that is invested in the automotive industry increases the GDP by 3\$: it means that this sector brings to the countries where it is developed, high profits and benefits. Moreover, the growth of automotive industry by 1% causes a growth in GDP of 1,5% in most developed countries. Indeed, the automotive industry is one of the main providers of development for a country: US, Japan, Germany and South Korea are an example of "super industry". By 2030 the share of revenue coming from traditional car sales is expected to decrease, while after-sales maintenance, sales of spare parts and services connected with the use of cars will bring most of the revenues. The top automaker companies have their assembly plants in 11 developing countries to exploit lower costs. The phenomenon of globalization had some benefits for the automotive players, especially for auto manufacturers, thanks to the standardization of the models across different countries and markets. However, there are different issues in this process of standardization: some vehicles that are created for one specific market, may be not be profitable in another one. For example, products should be adapted to meet different needs and requirements, such as the level of income of countries, standard and local regulations (for instance emission constraints), driving conditions and consumer preferences⁸.

In the table below there is an interesting research on the ratio of macroeconomic parameters and the share of automotive parameters of the leading countries in 2017, it is two years old, but it is still meaningful. In the U.S. and in Japan the share of the automotive industry in world

⁷ www.medcraveonline.com

⁸ John Humphrey and Olga Memedovic, "The global automotive industry value chain: what prospects for upgrading by developing countries"; 2003

production is the highest, while in Germany and South Korea the share of the industry in GDP is one third⁹.

Parameters	USA	Japan	Germany	South Korea
Share of GDP in world production (%)	24,42	5,6	4,57	1,85
The share of the automotive industry in world production (%)	12,3	10	6	4,9
The share of the automotive industry in GDP (%)	12	12	14	10
The country's share in world exports of goods (%)	9,1	3,8	8,1	3,2
Commodity exports (billions of dollars)	1504,9	624,9	1329,5	526,8
The volume of export of machinery and transport equipment (billion dollars)	664,9	400,6	729,6	315,1
The volume of export of cars (billion dollars)	53,8	91,9	151,9	37,5
Number of employments in the automotive industry: Direct (th.)	870	803	807	320
Indirect (million)	7,2	5,5	1,8	1,83
Share of industry in GDP (%)	19,9	26,6	32,5	39,7

Table 1 - Saberi, Share of the industry in GDP

United States of America and South Korea are the only countries that have decreased the rate of new motor vehicles registration by -1,7% and -1,9% from 2016 to 2017. Europe accounts for one fifth of the world's motor vehicles registrations (worldwide in 2017 the sales of passenger car accounted for about 77.7 million); around 12 million of people are working in this industry, which is responsible for 4% of the European GDP.

As regards of world motor vehicle production, the graph below shows how it is distributed around the world.

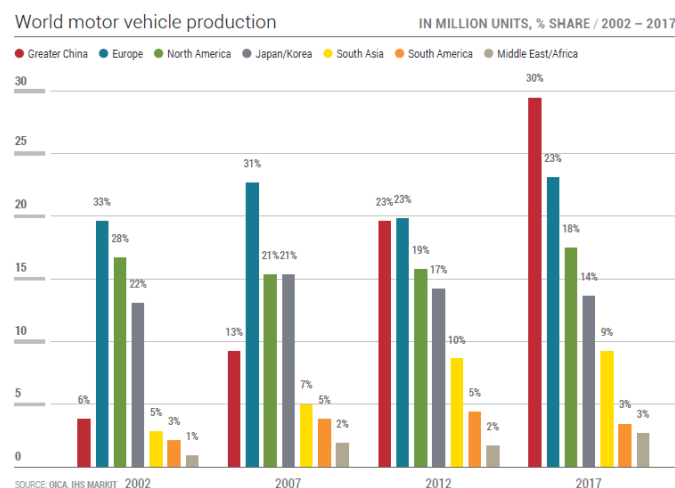


Figure 1 - Acea, The automobile industry Pocket Guide 2018-2019

⁹ B. Saberi, "The role of the automobile industry in the economy of developed countries". Int Rob Auto J, 2018

3.2.1 The OEM

The Original Equipment Manufacturer (OEM) in the automotive industry is the assembler of the different parts of the vehicles and it produces itself final parts. 35% of the overall value is created by OEMs, while the rest comes from outside suppliers¹⁰. Automotive Manufacturers are at the end of the assembly process, even though they coordinate the upstream supply chain, by giving information about the forecasted demand to different levels of suppliers. The main activities of OEMs consist in direct sales, R&D, manufacturing, after sales, and services.

In the market there are 14 major OEMs that produce vehicles for 62 brands. There are others minor OEMs in China with smaller dimensions. The largest OEMs are Toyota (Daihatsu, Lexus, Toyota), Volkswagen Group (Volkswagen, Audi, Seat, Skoda, Bugatti, Bentley, Lamborghini, Porsche) and the partnership Renault/Nissan (for Renault the brands are Renault, Alpine, Dacia, Lada, Venucia and for Nissan the brands are Nissan, Datsun, Infiniti, Mitsubishi motors) with a production of around 10 million of cars in 2016.

In 2017, the top automakers companies in terms of vehicles sales are¹¹:

Brand	Country	Production
Toyota	Japan	10 466 051
Volkswagen Group	Germany	10 382 334
Hyundai/Kia	South Korea	7 218 391
General Motors	U.S.	6 856 880
Ford Group	U.S.	6 386 818
Nissan	Japan	5 769 277
Honda	Japan	5 236 842
Fiat Chrysler Automobiles	Netherlands	4 600 847
Renault	France	4 153 589

Table 2 - OICA, Vehicle production

¹⁰ Dietz, “Value Chain Governance that Benefits the Poor”; 2018

¹¹ OICA, International Organization of Motor Vehicle Manufacturers, “World motor vehicle production”; 2017

The top automakers group by revenues in U.S dollars are¹²:

Brand	Country	Revenues U.S. Dollar
Toyota	Japan	265.17
Volkswagen	Germany	260.06
Daimler	Germany	185.24
General Motors	U.S.	157.31
Ford Motor	U.S.	156.78
Honda Motor	Japan	138.65
FCA	Nederland	132.88
SAIC Motor	China	128.92
BMW Group	Germany	111.23

Table 3 - Statista, Top automakers

In the last years OEMs have started to merge, outsource or collaborate in order to share knowledge, resource, reach economies of scale and focusing as more as they can on what they are good at. Furthermore, most of them have moved their factories in Asian countries to exploit lower production costs. Nowadays, the car producers have more profit from sales in emerging markets than in Europe, US, Japan and South Korea, that are more stable and stagnant, in terms of profit growth. In fact, by 2020 emerging markets will account for 2/3 of the total automotive profit, with China as the driver force. Furthermore, cars are the largest export products in the world and over the last years (2010-2017) there was an increase in production of 25% cars¹³. Recently the merger, acquisitions and other forms of partnership, OEMs have accelerated the process of integration with different countries and have widen the target markets. In order to give a clearer experience of these interesting events, later we will see which are the strategic concept of these actions of merger and acquisitions and commercial growth.

¹² Statista, "Revenue of the leading car manufacturer worldwide"; 2017

¹³B. Saberi, "The role of the automobile industry in the economy of developed countries". Int Rob Auto Journals; 2018

In the 70's the core business of OEMs has shifted to leasing and financing car sales and, with the diffusion of sharing and autonomous cars and new mobility solutions, the car producers will likely implement more services than product. In fact, it is becoming more relevant what a company can connect, than what a company owns: all car makers are focusing on investment in R&D, to increase the value added and to remain competitive. The data that vehicles generates become an important source of revenues and car makers are trying to implement a new business model based on data. Almost every OEM is investing in new mobility services: General Motors is betting money in Lyft, the ride sharing service popular in U.S., while Daimler, BMW and Volkswagen have launched their own car sharing services. Toyota in Japan is collaborating with local partner in Tokyo to offer electric vehicles car sharing.

Furthermore, what is happening and what can happen in the future is highlighted by an interesting survey carried out by Accenture¹⁴ giving outcomes on actual trends. They took a sample size of 7000 people from USA, China and Europe and they have found five interesting points that have to be considered. Firstly, respondents see the brand as 6th most important criterion for buying a car, but only the 10th most important one for car sharing. From this perspective could be profitable to OEMs to think about a possible rebranding or a repositioning strategy since, in a service future, the importance of the brand will erode significantly if nothing changes. Secondly, there is the challenge of the ownership concept, as we said before. Half of respondents would consider giving up car ownership in favour of using autonomous mobility solutions. But this varies greatly depending on country, and category of user. The research give to readers an interesting questions: "The key is to identify future value pools and calculate the investments that are necessary to tap into them: Is it worth it to keep trying to sell vehicles to customers who are ready to jump into services altogether while risking losing them to service providers?". As it has written before in the future geolocation of people and urbanization waves will affect significantly people's habits. In fact, 34% of respondents would consider moving to a suburb or rural area when autonomous vehicles become reality. OEMs should analyse this data in order to understand the potential of suburbs and see whether it could pay off to be a first mover for autonomous mobility services there.

¹⁴ Accenture, "Mobility services: The customer perspective"; 2019

3.2.2 Retail network - Car dealers

Since the car is a complex product, it is necessary a specific distribution network. In the retail automotive industry there are companies that sell new and used vehicles over a network of regional or national franchised dealership, and companies that sell replacement automotive accessories and parts (both B2B and B2C). This business is strictly related to the auto industry production levels, and so to gasoline prices, financial crisis and domestic economy. Car dealership can be a subsidiary of the automaker (NSC – National Sales Company) or a company based on a dealership contract.

Historically, automakers were in charge of selling directly to end user vehicles, through channel such as mail order, stores, agents. In 1898 the first car dealership was opened in the U.S: the dealership contract consists in franchising of selling and service cars by specific companies. They have showroom, properties to stock cars that are not yet sold and repair facilities. Car dealer profits derives from servicing, from selling new and used cars. Initially, OEMs had established with dealers a contract based on commission for each car sale, nowadays the car dealer buys directly cars from OEMs. The revenues come from the margin that dealers gain from sales (compared to the acquisition price from OEMs). In this way dealers have started to acquire a proper position in the market, with their private investment in marketing, vendors, facilities and repair shops. The dealer's task doesn't finish with the sales of a vehicle: some other activities such as assistance for used cars, customer assistance services, sales of spare parts and promotion of leasing help dealer in manage customer relationship.

Moreover, car dealers play an important role in the automotive distribution network: they are the contact with companies (OEMs) and the final customer. They are characterized by capillarity: they are close physically to end users and this gives them a significant importance in terms of communications, relationship management and information. Furthermore, they are involved in customer satisfaction and in aftermarket activities such as assistance, maintenance, spare part sales and services. Usually the car dealers supply vehicles in local markets, since they are capillary and close to customer needs.

Indeed, their activity is also related to macroeconomic trends, such as the number of driving licenses and the fluctuation of older-vehicles population. In fact, most of the parts that dealers buy are on a need-base and not on discretionary base. Maintenance, repair, part sales, sales of cars, take a trade-in and financing a car are some of the activities that create net profit for car dealers.

Generally, car dealership companies gain revenues from four main lines of business:

- *Sales on new cars*: the dealer buy cars from OEMs and sell them to final users, such as companies or privates
- *Sales of used cars*: the dealer buy old cars by car rental companies or privates and then he resells them on the market.
- *Mobility services*: nowadays dealers start to offer other kind of traditional sales product such as long term and short-term rent. They generally purchase from rental company cars, then they enable those cars to these services (Rent to rent business). At the end of the rent period those vehicles are available to sales.
- *Service & Parts*: it consists in providing maintenance services for cars in the repair shop. To do that the dealer has in his stock spare automobile parts that can also sell to other dealers.

In fact, there are some parts that are original OEM and dealers can only purchase them through dealership. Car dealers that sell those original components mark up the parts.

- *Financial service*: since 1970s car dealerships have started to partner with banks or car manufacturers by providing to final customers loan to buy cars. This has become for dealers a new revenue stream. The dealers have special credit line with OEMs: they order new vehicles from them, according to both market and manufacturers' needs, and then dealers will pay back those lines of credit.

The main costs for dealers derive from:

- *Facilities*: where they store vehicles and conduct their business are costly, especially for a luxury dealership that invests significantly on the showroom experience for the customer.
- *Labour costs*: they derive from the sales agent and mechanics that work in the repair shop.
- *Advertising and marketing*: they are surprisingly high, at least for many dealers, as advertising drives vehicle sales (and sales help drive everything else). Every dealer invests heavily on the advertising and marketing: in fact, they are the ones who have the direct contact with the final end-users.

The main problem approaching innovation to this business is that dealers historically have developed a short-term vision, with the aim of reaching the goals that the OEMs has stated, and

they concentrate on month's gross profit, more than in a 3-5 years vision.

3.2.2.1 The Sales of used car

The management of the used car sales is totally different from the line of business of sales of new cars. The dealers can buy used vehicles from private individuals, from rental companies or from corporations. They can choose to buy and directly sell to the market the car, or to invest on reconditioning the vehicles with a consequent investment, or to directly sales to external retail parts. An important indicator to measure this line of business by dealers is the rotation rate of the cars in stock. In fact, it costs money for dealers to keep cars for too much time. In addition, the sales of the km0 cars is considered in the business line of sales of used vehicles. Those cars are new, since they have never been used on the roads, but they have been registered by dealers with the aim of sold them as soon as possible through high discounts. Often those cars are registered by dealers in order to reach OEM's goals, measured generally every three or six months, in order to have some awards. It means that zero kilometres cars are often registered by dealers, as a marketing strategy, to reach the OEM's objectives. The line of business of used car sales is expected to be one of the main sources of revenues for dealership in the future, since alternatives to car ownership are going to be spread among people.

3.2.2.2 The Aftermarket

The value added in the automotive value chain by the aftermarket sector is relevant. It consists in the production of components and spare parts and the distribution of those items. McKinsey¹⁵ estimates the aftermarket value in 2017 to be approximately €800 billion. Business in North America accounted for approximately 270 billion of global revenue, Europe was second at approximately 240 billion euros. They expect the overall automotive aftermarket to grow at roughly 3 percent p.a., reaching approximately 1,200 billion euros by 2030.

This sector is composed by two main channels:

- The “Authorized” channel (OEM), composed by car makers, their international organizations and their car dealers and repair shops networks (both mono and multi brand)
- The “Independent” channel (IAM), that includes suppliers of components, services and

¹⁵ McKinsey & Company, “Ready for inspection – the automotive aftermarket in 2030”; 2018

independent repair shops and dealers.

The aftermarket sector has high profitable margins, even if it is less than 20% of the overall distributors activity. For instance, in Germany the aftersales market has margin of 54% while the sales of new vehicles of around 1,4%¹⁶. According to many researches, in the future this market is expected to become the most important business segment for the main players.

Dealers gain a big percentage of their revenues from the aftermarket: it consists in all activities after the sales of the automobile such as the repair and maintenance of vehicles and the spare parts' distribution.

This market is expected to increase its importance in the future: nowadays 2/3 of dealers operating results derives from aftersales services. According to the figure below, from 2001 to 2015 the global aftermarket value has increased worldwide significantly.

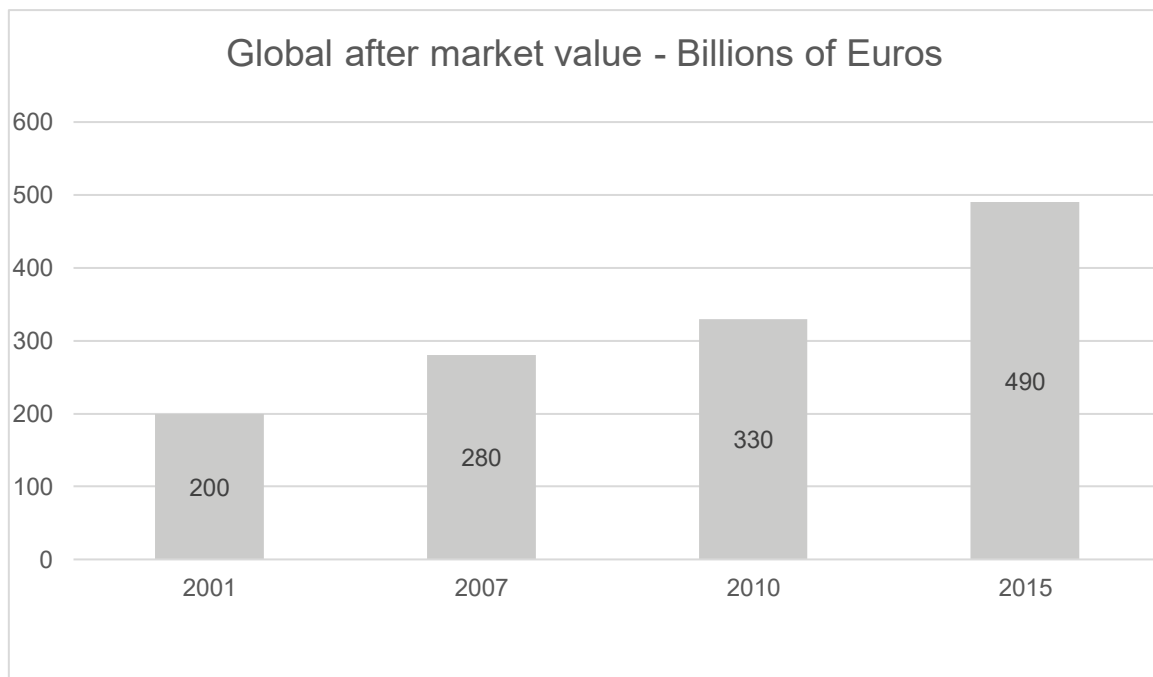


Figure 2 - Capgemini, Data monitor, Global After market value in billions of euros

¹⁶ Gissler, Karwehl, Kunkel, "The future of Automotive aftersales", Accenture; 2015

3.3 The Automotive Value Chain

According to Porter¹⁷, the process of manufacturing or service can be described as the union of different single processes (5 primary activities and 5 supports). Every process helps in generating value added to the final product.

The value chain of the automotive industry can be divided in primary and supported activities. The primary value chain activities are:

- Inbound logistics: the receiving and warehousing of raw materials and their distribution to manufacturing as they required.
- Operations: the processes of transforming inputs into finished products and services
- Outbound logistics: the warehousing and distribution of finished goods to dealers
- Marketing and sales: the identifications of customer needs and the generation of sales
- Service: the support of customers after the products and services are sold to them

The supported activities are:

- Infrastructure: organizational structure, control systems, company culture
- HR management: employee recruiting, hiring, training, development, and compensation
- Technology development: technologies to support value-creating activities
- Procurement: purchasing inputs such as materials, supplies, and equipment

The automotive value chain is characterized by automaker-driven network: it is a capital and technology intensive industry and the vehicles production is controlled by automakers. Furthermore, the automotive brands are owned by assemblers and they implement significant investment in marketing and sales and aftersales services. In the automotive value chain play different companies, coming from different countries and with different sizes that produce variety of products (simple components to technological complex parts). Automakers develop the concept and design of the vehicles, by massive investment in R&D and process engineering. The production of intangible goods created the greatest value added: R&D and brand management (together with marketing and aftersales activities) have the biggest impact of the

¹⁷ Porter, Michael E., “Competitive Advantage”. *The Free Press. New York*: Ch. 1, pp 11-15; 1985

creation of value, more than the production of tangible goods. Intangible goods, such as software, are developed by firm that create high entry barriers and capture high value added from the final product. External suppliers have increased their share of the total value of finished vehicles to 75–80%. OEMs are now creating or strengthening the collaboration with technology companies to integrate new solutions and products in cars to increase the value added.

Tech companies are likely entering the automotive industry in the next years, as Apple is developing its first electric car “Titan” and Google is partnering with suppliers for the creation of connected and autonomous car. In fact, in the past, hardware suppliers have been fundamental for OEMs business while nowadays, with the rise of innovative software implementation in vehicles, software system integrator are taking a crucial role by managing OEM client interface. New technological competences are hard to be acquired by tradition suppliers, and IT companies are entering in the automotive markets.

3.4 Industry Analysis

3.4.1 Porter’s Five Forces analysis

The Porter’s Five Forces Framework is a good tool to analyse, in this new context, which are the new opportunities that dealers should catch, and which are the main issues to be solved. The theory was developed by Michael E Porter in 1979 and it is a useful model to understand the competitive intensity and so the attractiveness in terms of profitability.

➤ Threat of substitute products or services

The digital innovation, accelerated by new technologies, has transformed the automotive system, particularly the mobility concept has been introduced and new business models have been developed in the transport industry¹⁸. As we wrote before, the industry is not anymore linked just to the physical product but to all the service that can derive from its use. The

¹⁸ Fichamn, Robert G, Dos Santos, Brian L, and Zheng, Zhigiang , “Digital Innovation as a Fundamental and Powerful Concept in the Information Systems Curriculum”: pp 329- 353; 2014

mobility-as-a-service and car-as-a-service industry are expected to continue to grow in the future. For the dealers this can be a threat, especially in urban areas where alternatives solutions to private car are common and spread among consumers. Car ownership can be threatened and consequently the revenues that dealers gain from car sales. Platforms and digital services are implemented by new market entrants both public and private entities. These new actors solve the need for mobility and are pushing consumer to switch, mainly in urban areas but also in long-run journey's purpose, from a private vehicle utilization to a sharing rides or to public means of transports. Substitute products or services can be divided into the following categories:

- Ride sharing and car sharing: these industries can be considered as potential substitution to dealer's activity. In fact, since the spread of those solutions inside urban areas, the sales of new car is less attractive to some consumers that consider car sharing and ride sharing as a valid alternative to private car. New mobility providers are studying the citizens' mobility needs to cover the lack of public transport and the commitment to car purchase and ownership by offering an innovative option. The number of shared vehicles worldwide is increasing, and OEMs are entering this market as well (Daimler and BMW), or in other cases collaborating with ride sharing companies (FCA Group with Enjoy) with the aim to provide their cars in new channels. In example in Italy, mobility sharing users are quickly increasing, reaching 5.2 million at the end of 2018¹⁹. This is a positive increment compared with previous year's data, 24% for the accuracy. The "Osservatorio Nazionale Sharing Mobility" estimates that people did 30/35 million mobility sharing path in 2018, plus 26% respect the previous year and the double of paths compared to 2015. Electric vehicle penetration in the available mobility fleet is increasing as well (from 27% in 2017 to 43% in 2018) due to the scooter sharing boom since they six-fold their presence in the market in only one year. Moreover, also historical rental companies are entering this market, such as Europcar, that have changed its name in Europcar Mobility Group, with Ubeeqo. Firstly, in the ride sharing market industry leaders are raising big amount of capital to keep on widening the portfolio of services. According to Global RB Mobility Revenue and Profit Pool Model (Lazard and Roland Berger) by 2025 vehicle sales for new mobility services are expected to exceed 10% of new car sales in the EU. Indeed, the change in ownership patterns, together with growing of the urbanization and the enhancements in technology

¹⁹ Osservatorio Nazionale Sharing Mobility, "3° rapporto nazionale sulla sharing mobility"; 2018

are pushing new mobility providers to provide car as a service, to exploit its use, since on average cars are not on the road for 95% of their life. Italians between 18 and 45 that owns a car have decreased to 37% in 2016, also due to shared mobility.

- Autonomous car: by 2025 autonomous vehicles are expected to be commercialized. The driverless cars are the new generation of vehicles that will progressively substitute (at the beginning partially) normal vehicles. According to a study of Allied Market Research, this market will globally worth, by 2026, \$556 billion. The early adopter of autonomous vehicles are large companies installed in cities and for freight mobility. The future diffusion of this technology is likely to reduce the dependence on car ownership, and consequently sales of private cars by dealership. All the car makers companies are developing autonomous cars (as well as IT companies such as Google and Apple) and the channel through which they are going to provide those vehicles is still uncertain. Indeed, without the right expertise and equipment, dealers of today are not able to service the advanced software and technologies of those cars. In conclusion, so many discussions are spreading in this period, in this regard it is almost confirmed that we will talk about level 3-4 of autonomy, since several researches admit that the full autonomy remains more a dream than reality.
- Public transportation system: As it has been written at the beginning of the document, the integration of different modes of transportation in a unique platform supplied by a new actor called “Mobility Operator”²⁰, is the new business models that is pushing private individuals to buy fewer private cars, thanks to the flexibility and customization of those packages. In fact, those solutions are user-friendly: public authorities have interest in developing them with the aim to exploit the already existed public transport network and of reducing congestion issues. Municipalities are supported also by recent directive: the European regulation RDE (Real Driving Emissions) bans the circulation of diesel car in the European capitals from 2020 (for example in Paris) and from 2024 in Italy. In Milan the prohibition is in force from February 2019 for Diesel Euro 3 and 4 vehicles.
- Bike sharing: the Italian bike sharing market was the most popular among European countries, with 39500 bicycles in 265 cities in 2017. The phenomenon from 2016 to 2017 has increased of 147% and 2/3 of bikes belongs to Milan (44%), Turin (13%), Florence

²⁰ MO is the company which integrate of all kinds of trasportations in a unique solution customized on each consumer.

(8%), Rome (5%). The number of station-based fleet remains constant recording a +6% of electric utilities, on the other side the global number of bikes has been reduced by a 9% between 2017 and 2018 reaching 35.800 quotas²¹.

- **Scooter sharing:** in the last year, in the Italian market, innovative mobility solutions have spread with an electric scooter fleet inside urban areas (until now in Milan, Rome and Turin). In 2018 scooter sharing and electric have caught very important shares in the mobility sharing market. In fact, scooter fleet is more than four-fold its quantity, counting 2240 items at the end of 2018, the 90% of them are electric. The geographic diffusion remains in the three cities cited above: Milan has 10 scooters per 10000 citizens, follows Rome with 2,5 and Turin with 1,7²¹.

These categories can be considered as valid services or products that could in the future push dealers' traditional customers to switch to these alternative solutions, that are more flexible, user-friendly and in some cases cheaper. In fact, according to the research "Business models and tariff simulation in car-sharing services", the less is the distance travelled by a user profile (km), the more is convenient, in terms of cost (euros), car sharing use. When the distance increases, the cost of car sharing utilization exceed the cost of private vehicles use: after a threshold, fixed cost deriving from car ownership are amortized²². According to a research of AT Kearney, by 2025 more than 40% of the population will be oriented to "pay per use" solutions. The table below shows the impact of the new services on the retail sector:

	Impact on dealer retail business	Time to market
Digital experience	High	Short
New mobility service	High	Short
Electric car	Low	Medium
Autonomous driving (Level 5)	High	Long

Figure 3 - Impact of new services on the retail sector

²¹ Osservatorio Nazionale Sharing Mobility, "3° rapporto nazionale sulla sharing mobility"; 2018

²² Perboli, Ferrero, Musso, Vesco, "Business Models and tariff simulation in car-sharing services"; 2018

➤ Bargaining power of suppliers

The lack of transparency, high prices and long waiting time are the critical points that customers face in the after sales experience. Following these arising critical points, the tier of suppliers and the OEM are increasing their power towards the dealers.

- Tier of suppliers: following these arising critical points, the tier of suppliers and the OEM are increasing their power towards the dealers. The new disruptive technologies such as electric and autonomous cars are opportunities for these actors: new vehicles with these characteristics need high technological components and suppliers are working on them trying to increase their lock-in effect to dealers. The global supplier industry is expected to increase or at least maintain its profitability level. For the car dealers, suppliers of components parts represent threats for their activity. After the European regulation UE 461/210 of the 2010 the aftersales market has liberalized the commercialization of components parts by independent channels, the after sales landscape has changed: the competition has increased. Furthermore, the digitalization of the activities has made easier to deliver services, and to identify new customer touchpoints. Suppliers of components and spare parts are starting to sell directly to final consumers thanks to e-commerce and to ensure transparency and more flexibility. For example, Opel in 2018 has launched its personal e-commerce for components parts and spare parts (Official Equipment). Final consumers can directly buy components of vehicles parts online and then complete the installation through dealer network. In this way, suppliers are not anymore linked to distribution network, with who they have a commission-based relationship. In addition, components suppliers are targeting businesses (B2B) to increase their revenues.
- Car Makers: according to PwC's research "*The 2018 Strategy & Digital Auto Report*", in the scenario of shifting from vehicle ownership to car-as-a-service in the automotive industry, mobility platform providers are likely going to be the biggest winners: OEM are differentiating their core business from vehicles sales to service providers. To do that, they are becoming expert in managing different digital (as well as physical) customers channels and touchpoints beyond retail networks. Some car makers companies are trying to cut off dealers' network from the aftersales activities by providing the possibilities to book online service assistance and by supplying an e-commerce platform where customers can buy spare parts and other maintenance

products with vehicles identification number (Tesla). Land Rover has developed a 24 hours road assistance solution, though the InControl Optimized Land Rover Assistance button. General Motors is investing on OnStar service, offering assistance to customers. In addition, since vehicle electrification reduces power train complexity it forces OEM to create new after sales business models to remain competitive. Mercedes-Benz has invested \$50 million in a joint venture with US start-up Via to offers an on-demand network that matches passengers that need to go in the same direction with a single minibus (a Mercedes-Benz Vito Tourer or V-Class). To use the solution, it is necessary to download just the smartphone app to request a ride, and Via's algorithm instantly finds a vehicle that best matches the passenger's route. The service will start in London, followed by other European cities. Indeed, the new mobility landscape is pushing OEM to address new customer segments, by offering alternative vehicle ownership solutions: subscription programs that target directly final customers (Car Cloud by Leasys – FCA). Digital channels help OEM to reach the final customer and to engage him directly without being charged by car dealers commission. Customers are looking to mobility services more convenient, connected and multi modal and the car makers, actually, have the ownership of data generated by vehicles: those data, if correctly used and managed, helps OEM to address the best mobility solutions. One possible future trend which can help dealers to have user's data can be telemetry: a Blackbox installed on used vehicle stock and on client's cars that collect data and enable dealers to engage more and target customers.

➤ Bargaining power of buyers

Car buyers nowadays design their decision and experience journey individually from a multitude of different touch points. McKinsey's 2013 Retail Innovation Consumer Survey showed that over 80 percent of new-car and almost the totality of used-car customers now begin their journey online, while initially dealership was the first contact in the customer journey, and we are citing a 6 years old survey. Dealers have not any more this fundamental role in influencing purchasing process. The online channels have become the first source of information: customers look at OEM and dealers' websites, social media to assess which is the best option that meet their needs. Moreover, customers spend about 10 hours online for product

and dealership information²³. In Italy the 68% of the customer visit dealership to see the car or to have a consultancy, compared to 96% in Germany²⁴. Private customers, big corporation and other potential clients have many options on the market, and this gives to them the possibility to switch easily to those that better match their needs (the cost of switching to others dealership is close to zero). On the other hand, as the customer journey starts online, dealers have the role of attracting the lead generated and to engage them, through the right communication strategy (mobile apps etc.). Innovative technologies create new opportunities to reshape the in-store experience and to catch customer attention. Customers are attracted by dealers that put them at the centre, with a customer-centric approach. Recently dealers have started to implement strategies to increase customers' retention according to a study from the Automotive Dealer Day (May 2018), 52% of customers are not loyal to the brands. It means that dealers' investment in customer experience/journey, and customization are the right solutions to lower the bargaining power of buyers²⁵. Building customer loyalty through quality, customer experience, large portfolio of alternatives to traditional vehicle purchase together with competitive prices are some of the solutions that dealers must catch to fight the buyer powers.

➤ Threats of new entrants

In the car dealer's industry, the threat of new entrants is low. The investments that must be done to stay competitive in the new landscape are too much high to attract new entrepreneurs. In fact, the actors that are surviving are those that have increased their dimension by acquiring small dealerships and by entering in foreign markets. Moreover, margins on vehicle sales are too low to make the industry attractive by new entrants. The real threats for the dealers' sector are the components supplier: in the future the spread of electric and autonomous vehicles will likely reduce the need of dealers' assistance, due to the low degree of complexity of the structure (components), but the high technological expertise needs. Suppliers of components parts will enter the aftersales market aggressively. As regards of new entrants, LTR companies, in Italy, are trying to enter in the car dealer's market with their activity: in fact, thanks to the shift from car ownership to car access, they can rent more cars and capture the customer's segment that has always been car dealers' one.

²³ E&Y, "Automotive retail 2030"; 2018

²⁴ Europe Group Consulting, Reports, "Automotive finance study 2016, The European market and its future challenges". Next Continent; 2018

²⁵ Italia Bilanci, "ADR Automotive Dealer Report"; 2018

➤ Competitive rivalry among existing players

In the Italian market the competition among existing players is quite high, since the market is saturated. In the past it was easier to start this business, especially in the years of boom for the sales of cars. However, as said before, the number of players is decreasing, due to mergers and acquisitions strategy. The biggest dealer group are investing in the digitalization to offer omnichannel solutions in order to meet customers' needs and to cover all the segments. Furthermore, information systems that dealerships use are based on old and not efficient specialized application (Customer Relationship Management, Service Management, Insurance Management, Financial Management etc.). All the data collected from the different application are not correlated and are dispersed since there is not the right integration to make all the data usable. The biggest groups are now investing to recreate the information system, since they have understood the importance of data generated by their customer to increase the value of their portfolio of product. About the repair shops, the competition is quite high since the European regulations of the 2010 has liberalize the sector and independent dealership or repair shop can offer assistance and can sell components, as we wrote before. This has increased the competition in the aftermarket industry: moreover, this market is expected to reach far more importance in the future.

3.4.2 SWOT analysis for car dealers

After having analysed the landscape in which Italian dealership nowadays are, it is necessary to point out which are the internal and external helpful and harmful issues. To do that, the SWOT analysis is an efficient tool, usually used as strategical planning for a company. The SWOT matrix was developed by Albert Humphrey in the '70s at the University of Stanford. The aim of the analysis is to understand which are the key points of the business of car dealer which should be taken in consideration or solved to survive in the future in the market. The focus of the analysis is any kind of dealership, from small to big size, that sell both new or used cars and that offer to customer leasing or additional alternatives to car purchase to customer. As we have seen in the 5 forces Porter analysis, external players, mobility trends, innovative products or services are threatening car dealers' activities. The four points of the SWOT analysis can be grouped in two categories: internal factors, that are the strength and weaknesses of the sector, and the external factors, that are threats and opportunities that derive from the

environment in which the business is.

A. Strengths of car dealership activity

- *Capillarity*: dealerships are close to the final end-user, while OEMs lack of this characteristic. This gives them a fundamental role in assist and help customers from the purchase phase to the after sales one. In the Italian market the points of sales are both in urban areas and in suburban areas, with bigger showroom. Being physically close to the customer make dealership an important point of reference.
- *High expertise*: the automotive sector is highly competitive, and the products and services their selves are complex. To sell the passenger cars it is crucial the role of dealers as intermediaries between car makers companies and final user. Even if all the information is nowadays available on internet, some activities of vendors and experts are crucial: for instance, the leasing solutions are far more understandable if vendors explains them, by comparing the different alternatives. Secondly, Italian dealers have high managerial expertise: they deeply know the key stakeholders with who they interact, from car makers companies to suppliers of components parts. Most car makers companies don't have the necessary people and technologies and the seller mindset as sellers have.
- *Unicity of the offer*: in the automotive sector, car dealers are the only ones that sell physically vehicles, from new ones to used ones. They are the only distributive channel that OEMs should deliver their products on the market. Recently, thanks to the digitalization, the virtual channel is becoming important to reach the consumers as well. For instance, recently MotorK, the company present in European automotive sector, has developed a platform that enables users to manage the price quotation directly via WhatsApp and to sign the contract online (the name of the product is 1to1 sales). However, around 53% of the Italians prefer to see the car before the purchase, so during the online purchase process the car can be showed through virtual reality tools or via video-conference call, but this methodology remains a "cold" solution to Italian consumers²⁶.

B. Weaknesses of car dealership activity

- *No diversification*: car dealers' main activities are strictly related to the automotive industry's trend: if there is a period of crisis of vehicles sales, the distribution network

²⁶ www.motork.it

consequently absorbs the situation. For instance, Toyota is shifting to a new business model by investing more on autonomous cars and car sharing, and this would inevitably cut off dealers in the automotive retail network, since the product is different in its characteristic of distribution to final customers. Daimler is collaborating with Bosch to develop a ride hailing service with autonomous vehicles: the shift in OEM's strategy and supply of product has consequences for car dealers, that depends on their offer for new vehicles. Furthermore, car dealers in Italy have limited operative margins with the consequence of low investment possibilities: this characteristic is changing due to the aggregation's phenomenon among dealers.

C. Opportunities

- *Data collection*: the automotive industry is shifting from being product-centric and asset driven, becoming a more service-oriented industry. Customers (both commercial and private) are increasingly aware of the total cost of ownership and are demanding flexible and predictable rate-based models. Dealers have the potential to collect millions of data from customers and consequently to drastically increase customer lock-in and upselling.
- *Digitalization*: the shift to online sales and communication channels for vehicles (both new and used ones) is going to be in the future up to one-third of revenues from dealer' networks. Relationships across the entire retail sector are changing due to the digital revolution: car makers and dealers are redefining the way they interact with final customer with digital and physical touchpoints. For instance, FCA is collaborating with Amazon for online new car sales in Italy for three models. Secondly, the engagement of customers for car access or purchase starts online: the introduction of digital in dealer's business would enhance the customer experience journey, with a deep understanding of its characteristics. A large portion of the purchase process is already online, and the dealers in Italy that are investing on these channels are increasing the customer's engagement. The average of dealers' visit during the buying phase is around 2.4: indeed, their role is fundamental, since most buyers prefer to conclude physically the purchase in the store. However more than 60% of customers decide before visiting the dealership for the brand and price²⁷. The omnichannel sales approach is essential to car dealers to stay competitive: in this way they are likely capture customers with more personalization. To do that, it is important for

²⁷ Bain & Company, "Global Automotive Consumer Survey, The Future of Car Sales Is Omnichannel"; 2017

dealers to integrate their information systems (CRM, DMS...) that until now have collected data not in an ordered way and separately. The integration of the different data collector's system will enrich the value of those information thanks to the ease of information flow across dealership. In this way dealers can communicate effectively and the creation of a customer interaction (via online channels such as social media) will help in the creation of a long-term relationship. For instance, with a digital subscription platform, dealers can engage customers and manage them more easily and effectively. According to Dealer Marketing Study by Autoscout24²⁸ of 2018, in the budget of the 2018 the Italian car dealers have choose to invest in the digital channels (51% of the total marketing expenses are on traditional communication channels): social media are 11% of the total investment in communication. Digital channels are mainly use for the business line of use cars. The 0,3% of the dealer's revenues is invested in marketing and communication.

D. Threats

- *Digitalization*: the phenomenon of digitalization in the automotive retail industry has reduced the need of contacting the dealer at first. In fact, customers can easily access information via OEM's website, together with social medias: recently number of customers that visit dealer before buying a vehicle has considerably decreased, since the visit is considered nowadays useful to the purchase's phase. This has inevitably led to a drop of the decision-making process main actor's role for the dealer, that is considered as a physical shop where payment can be done. Many Italian car dealers lack of the experience of customer interaction via internet and some of them have understand the potential of digitalization (mainly biggest groups) and have started to engage potential customers through online channels, but the efficiency of those channels is still low, compared to the potentiality. Furthermore, Internet is reducing the margin's power by vendors, since the customers when arrives to the dealership, have already seen the different prices' option on the web.
- *Environmental issue*: The European Union is regulating the use of cars to reduce the level of CO2 emission due to the high level of pollution in urban areas. This is pushing consumers to use less car: the total cost of owning a car is increasing due to the low rate of use in urban areas and this, consequently, bring citizens to choose alternative means of

²⁸ www.autoscout24.it

transports, from motorized ones (shared or electric that have less impact) to public ones.

To sum up, the new mobility and car-as-a-service trends have brought several challenges to car dealers. Together with it, the digitalization and the change in consumer preferences are pushing businesses to innovate and to increase the value of data generated from their services and customers.

3.5 Competition Analysis

3.5.1 The automotive distribution in Europe and in Italy

3.5.1.1 The European market

The automotive distribution in Europe is characterized by OEM-owned dealers (around 3% out of the total), big dealers' group and small dealership. The top 50 dealer group in Europe have done in 2018 around 10% of the overall car sales. In 2015 their revenues were more than 90 billion of euros. According to the ranking of the Automotive News Europe, in 2018 at the top of the ranking there is the Swiss dealer group Emil Frey with 11.10 billion of revenues in 2017 (in 2017 it was in the 5th position then they acquired 275 dealerships from Volkswagen Group's Porsche Holding Salzburg, reaching the first position²⁹), the American group Penske Automotive (Europe) is fallen down to the second position with 7.74 billion euros of revenues, then at the third position there is the English groups Pendragon with 5.56 billion of euros. The only Italian group in the top 50 dealer group ranking is Autotorino, at the 49th position.

The general trend in the European market for the distribution market is the merger of small dealers or the acquisition by big dealer group, to survive in the market and to increase economies of scale and reduce enterprise risks³⁰. In addition, the recent EU regulations (particularly the regulation 1400/2002³¹) that has stated a liberalization to increase competition thanks to the facilitation of the implementation of new distribution techniques such as e-commerce and multi-brand dealers, has enhanced this phenomenon. Furthermore, the

²⁹ Automotive News Europe, "2018 Guide to Europe's Biggest Dealer Groups"; 2018

³⁰ www.autonews.com

³¹ R2RC, "The new competition law framework for the automotive aftermarket"; 2010

relationship of OEM-dealer has evolved in the direction of customer and dealer protection (for example the right of repairing cars under warranty at independent repair shops).

3.5.1.2 Dealers in the Italian Market

The Italian market is following the European trend: historically in Italy the automotive distribution industry has been characterized by family-run enterprises, with point of sales (dealership) usually in urban city centre. Recently the biggest car dealers have increased their dimension with the creation of big dealership groups and as a consequence new services have been offered by them such as insurance, leasing, warranty extension and other solutions not linked to car ownership, such as car rental solutions offered by dealers, due to the increasing dimension and investment capabilities. At the end of 2016 there were 1530 dealer companies (both one or multi-brand), while in 2015 they were 1608³². This is because, due to the new mobility solutions and changes in the automotive sectors, as explained previously, some dealers have merged among each other and the smallest have been acquired by bigger dealer group. Two examples of this merging trend are: Autotorino-Autostar, happened in 2019, taking the group to the first position in Italy in revenues terms and in the top 25 position in Europe, and the merger between BiAuto and Biasotti group, happened in 2018, which gave life to the biggest dealer group in the North-West of Italy. The table below shows the evolution of dealers in the Italian market until 2016³⁰.

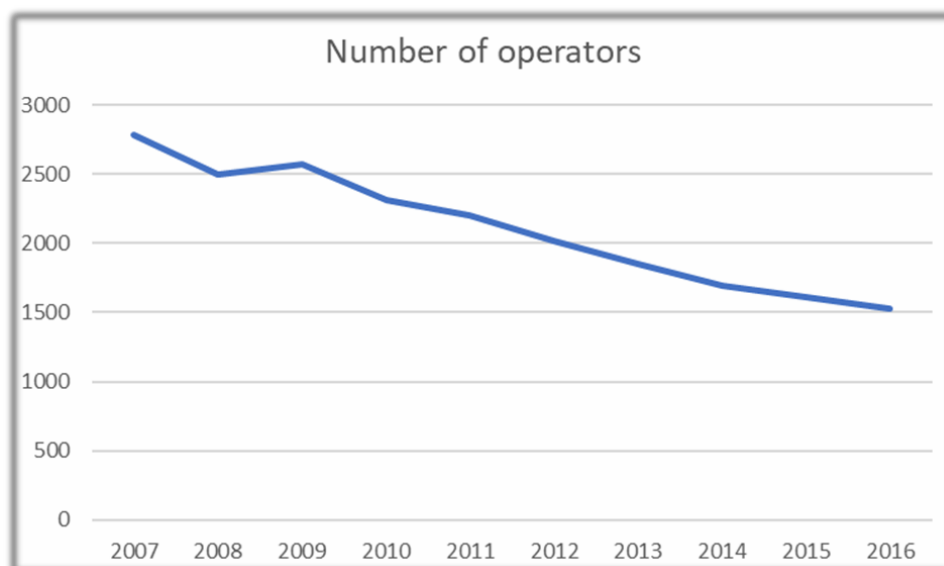


Figure 4 - Automotive Dealer Report 2017

³² Italia Bilanci, “ADR Automotive Dealer Report”; 2017

The dimension in the distribution market is an important characteristic that enables dealers to increase their operating margins and so, to invest more on innovative solutions and on digitalization of their structures.

The change in the automotive market, together with the decrease of the number of operators, have boost the average volume of sales for each dealership, that in the 2016 has accounted for 1000 for each.

The point of sales for each dealer group has decreased, reaching more productivity. Furthermore, the number of dealerships that are multi-brand is significantly increased: dealers start to collaborate with more car makers to reduce the overall enterprise risk. In the 2016 a dealership has on average managed 1,72 brands while in 2015 1,70.

As said before, the dimension for dealers is an important aspect, and figures explain this characteristic. In 2012, a difficult year for this market, the small-medium size dealers have lost around 1% of operating profitability while big size dealers around 0,3%.

Furthermore, banks have put pressure on small size dealers, with high interest rates hard to be sustained form a small company. The rate of growth of the ROI for the big dealer group is high so it means that they were able to exploit economies of scale when the market is profitable³³.

According to the research by Quintegia “Top 50 dealer”, the top four dealers have revenue of 14 billion of euros in 2017, that accounts for 23% of the total. The sale of new car is their core line of business (10 € billions), focusing on premium and luxury brands (Alfa, Jeep and Mercedes at 32%, Audi and BMW for 30%). The sales of used cars (2,8€ billions) and aftermarket services (1,2€ billions) are important sources of revenues for top dealers³⁴.

Nevertheless, the size of top Italians dealers is still small compared to the big European ones and no one is nationally present. Moreover, in 2018 the foreign companies Penske (American dealer group of 500 million of euros) and the German Porsche Holding (260€ million of revenues), entered in the market, by acquiring existing Italian dealer groups in the north of Italy. In addition, the years of crisis have accelerating the process of concentration and aggregation of small size dealers to better deal with big investment and risk management. In Italy, dealerships are not homogenously distributed towards the territory: 55% is in the north, 25% in the centre and 20% in the south. In the Italian market, revenues of dealers mainly derive from sales of new cars (around 47%). The spare part's sales and the assistance, that in 2017 accounted for respectively 5% and 22% of the total revenues, are expected to increase their

³³ Italia Bilanci, “ADR Automotive Dealer Report”; 2017

³⁴ Quintegia, “Crescono ancora i Top50 Dealer in Italia: quali sono i Top5?”; 2018

proportion out of the total³⁵.

3.5.2 The challenge for the car dealers in the Italian market

The automotive industry is changing, the value chain as well and the dealers in this new situation are facing several challenges. The new mobility trends are pushing their suppliers (OEMs and suppliers) to increase their power by entering new businesses that concern the direct contact with the end-user. According to PwC report of 2018, by 2030 the profit distribution in the automotive industry (in billions of dollar) will be distributed as the following share: 5% will derive from suppliers' companies, 26% of new vehicles sales, 10% of aftermarket activities, around 10% from financing and insurance solutions, 9% from tech suppliers and 30% from Mobility services. All the stakeholders in the industry are working in this direction, and dealers are threatened by this landscape³⁶.

Furthermore, the digitalization has given to customer high access to different information that make them more aware and inform when they visit a dealership. To increase the customer satisfaction, the points of sales are being transformed in attractive showroom where the customer journey is interactive. Car maker owned retail are trying to make the showroom experience unique: Motor Village in Turin has been opened by Fiat as a dealership with a strong brand image, where customer can visit and experience the brand in different forms. Moreover, there are also Conference Room, coffees shops and merchandising shops inside Motor Village. Nowadays customers are more informed and documented when they arrive in the dealership, and this change the role of the dealers: it is necessary that the customer journey increase to add value to customer satisfaction by investing in showroom and in additional services.

Furthermore, according to the picture below the new automotive digital business models across industry presents new mobility services, vehicle, home, energy, and information and communication ecosystem that change the landscape. Companies should exploit and innovate their assets such as pre-existing customer relationship and trusted physical products to survive on the new ecosystem.

³⁵ ICDP, "Reports"; 2017

³⁶ PwC, "The 2018 Strategy and Digital Auto Report. The future is here: winning carmakers balance metal and mobility"; 2018

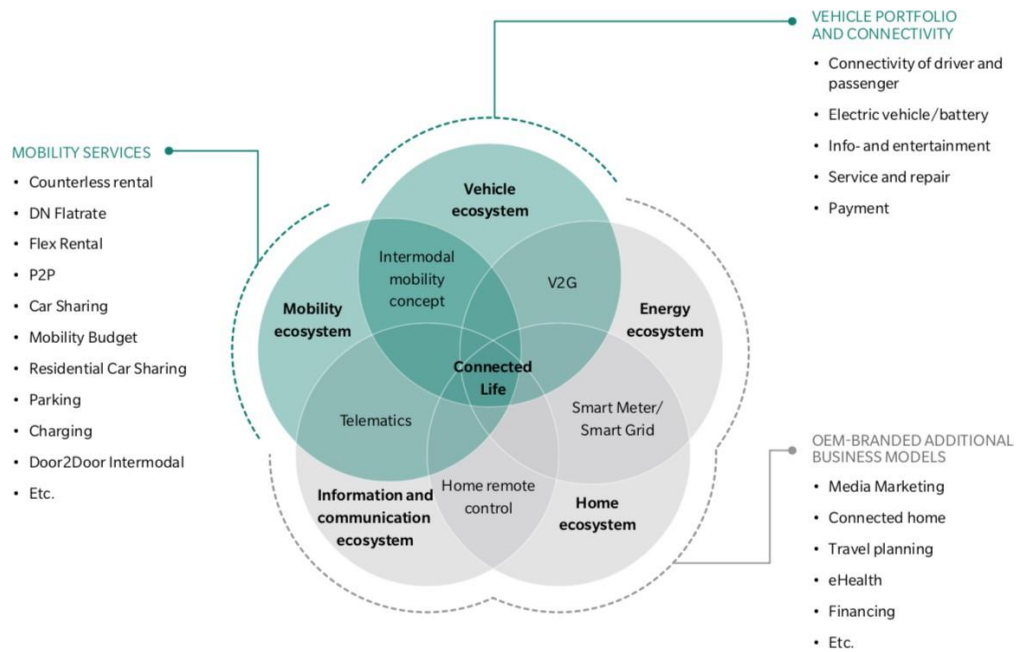


Figure 5 - Mobility Ecosystem, Oliver Wyman

4. Mergers, Acquisition and Mature Industries Management

So far, we have discussed about automotive dealership business, analysing how it is behaving, how much is attractive the industry, and which will be the future trends. This industry is giving brightly signals of business maturity and M&A are one of them. So that we will realize what we have written in the chapter before and recognize which are the causes activating specific dynamics, now, we will focus on M&A and mature industries management from a literature perspective, trying to give to the reader a more global and clear view.

4.1 Mergers and Acquisition

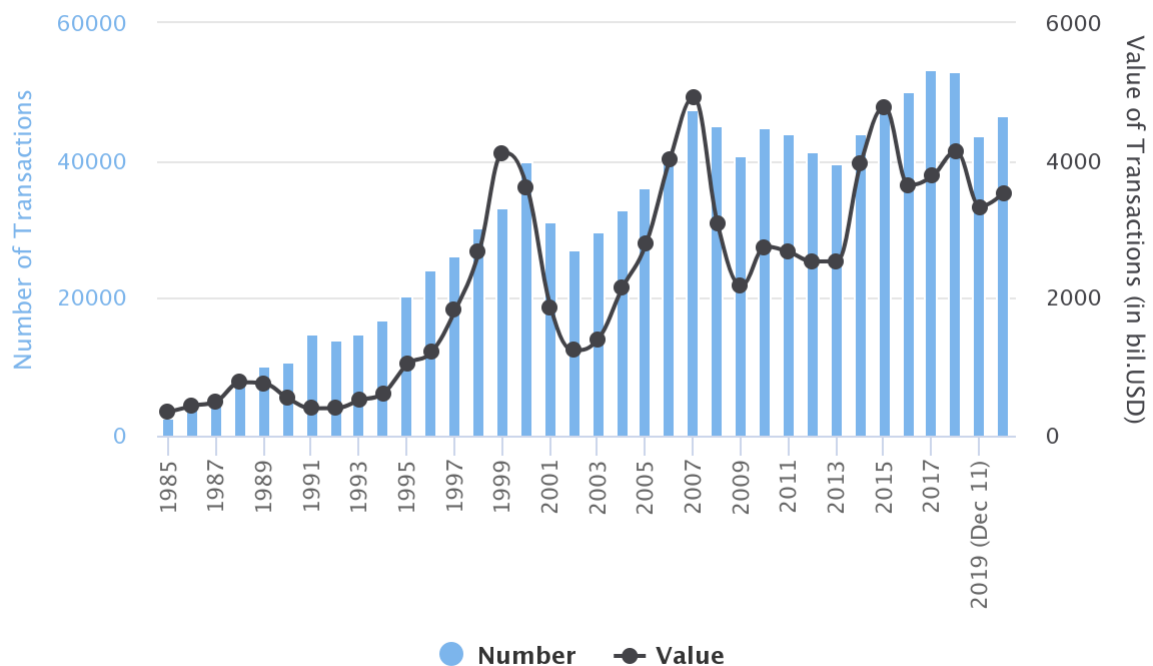
First, it's important so define what is acquisition and what is merger with the aim of avoid any kind of misunderstanding. An acquisition (or takeover) is the purchase of one company by another. This business action as a standard buy action involves the acquiring company (the acquirer) making an offer for the common stock of the other company (the acquiree or target company). There can be two types of acquisitions: one can be “friendly”, that is when they are supported by the board of the target company, the other one can be “unfriendly”, when they are opposed by the target company's board. A merger is where two companies decide to amalgamate to form a new company. This decision can be implemented after an agreement by the shareholders of the two companies, who then exchange their shares for shares in the new company. Mergers have couple of advantages, one of them is the tax advantage respect acquisitions and, for initiating firms, they avoid having to pay an acquisition premium. From a cross-border's point of view, mergers may be preferred to acquisition for political reasons. Since the mid-20th century, mergers and acquisitions (M&A) have increased in frequency and have become a generally accepted mode of corporate development— even in Japan, South Korea, and China. Analysing data on M&A it can be observed that activity follows a cyclical pattern, usually correlated with stock market cycles, as it is shown in the figure 7. These cycles are also clear in the types of mergers and acquisitions undertaken. During the 1960s and 1970s, most mergers and acquisitions were directed toward diversification (with conglomerate companies especially active). During 1998–2000, technology, media, and telecoms accounted for almost one-half of all mergers and acquisitions. During 2000–2008, emerging markets,

financial services, and natural resources were prominent. The figures below show some data about trends in M&A during years and the list of the Top 10 deals until now. During the past two decades, the trend toward consolidation through mergers and acquisitions has been offset by large companies divesting businesses either through spin-offs or sales to private equity groups.

Rank ⇅	Year ⇅	Acquirer Name	⇅ Target Name	Value of Transaction (in bil. USD)	⇅ Value of Transaction (in bil. EUR)	⇅
1	1999	Vodafone AirTouch PLC	Mannesmann AG	202,7	204,7	
2	2000	America Online Inc	Time Warner	164,7	160,7	
3	2013	Verizon Communications Inc	Verizon Wireless Inc	130.2	100.5	
4	2007	Shareholders (Spin out)	Philip Morris Intl Inc	107.6	68.1	
5	2015	Anheuser-Busch Inbev SA/NV	SABMiller PLC	101.5	92,3	
6	2007	RFS Holdings BV	ABN-AMRO Holding NV	98.2	71,3	
7	1999	Pfizer Inc	Warner-Lambert Co	89.6	85.3	
8	2017	Walt Disney Co	21st Century Fox Inc	84.2	72.5	
9	2016	AT&T Inc	Time Warner Inc	79,4	72.9	
10	2019	Bristol-Myers Squibb Co	Celgene Corp	79.4	69,7	

Figure 6 - M&A value ranking until 2019

Mergers & Acquisitions Worldwide



Source: IMAA analysis; imaa-institute.org

Figure 7 - M&A worldwide value and number of transaction trend 1985 - 2019

This past and recent trends in M&A make this activity on a favourable position when chief has to think about a strategy that can enhance and produce profits. Then it's important to understand how mergers are successful. One of the advantages is the speed at which chief can achieve major strategic transformations. Yet these advantages of speed come at a cost. Research into the performance consequences of mergers and acquisitions points to their generally disappointing outcomes. Empirical studies focus upon two main performance measures: shareholder returns and accounting profits.

- Shareholder returns point of view: the main outcome of studies of the impact of merger announcements on the share prices of bidding and acquired companies are that:
 - The overall effect of M&A announcements is a small gain in stock market value: typically, around 2% of the combined market value of the companies involved³⁷.
 - The gains from acquisition accrue almost exclusively to the shareholders of the acquired firms.

³⁷ S. N. Kaplan, "Mergers and Acquisitions: A Financial Economics Perspective" University of Chicago, Graduate School of Business Working Paper; 2006

- Accounting profits point of view: so, as to better recognize the actual findings of mergers and acquisitions we need to observe post-merger performance over several years and compare it to the companies' performance prior to merging. The problem here is separating the effects of the merger from the multitude of other factors that influence companies' performance over time.

As it has been written before, despite these activities are spreading during years the lack of consistent results regarding the activity of mergers and acquisitions is surprising given their diversity. They have different characteristic, they are motivated by different goals, happen under different circumstances, involve highly complex interactions between the companies involved, and are conducted by management teams of differing competencies. Even if mergers and acquisitions are grouped into different categories, the performance outcomes remain unclear. For example, among diversifying mergers, it would be expected that the acquisition of firms in related businesses would outperform unrelated acquisitions; it also might be expected that horizontal mergers (which increase market share and offer gains from scale economies) would be more successful than diversifying mergers. Yet both these highly plausible predictions fail to find robust empirical support.

After an introductory part about these business strategies, it is interesting to going deep evaluating which are the motives that guide boards to choose to amalgamate their companies with those of others. There are three main motives:

- **Managerial motives**, the first reason why stakeholders should view acquisitions with lot of scepticism is that they are so appealing to top management. Acquisition is without any doubt the fastest way of growing. There is a famous suggestion which highlight that CEOs of companies with overvalued equity will make equity-financed acquisitions to help support their share price³⁸. For example, AOL's merger with Time Warner was motivated, in part, by its inflated stock market valuation. As we have written before, M&A activity is highly cyclical, with a heavy concentration in specific sectors during specific periods: the petroleum mergers of 1998–2002; the telecoms merger waves of 1998–2005 and 2013–2015; and the global consolidation in beer, pharmaceuticals, and metals sectors during the past two decades³⁹. This sectoral clustering follow the cyclical thesis and it reflects firms' propensity to follow the leader, avoiding to being left to the

³⁸ M. C. Jensen, "Agency Costs of Overvalued Equity" *Harvard Business School*; May 2004

³⁹ G. Andrade, M. Mitchell, and E. Stafford, "New Evidence and Perspectives on Mergers" *Journal of Economic Perspectives* 15: 103–120; 2001

“suburbs of the city”.

- **Financially Motivated Mergers**, there are several M&A that can generate shareholder value simply as a result of stock market inefficiencies or financial engineering or through tax benefits. Acquisitions can allow a company to reduce its tax account. For example, it is fascinating how much a poorly performing company could be an attractive takeover target simply because of the value of its tax credits to the acquirer. Acquisition are also an intelligent instrument for a company to relocate to a lower-tax jurisdiction. An acquirer may reduce its cost of capital, thereby creating value, simply by changing the capital structure of an acquired company. Leveraged buyouts (LBOs) are acquisitions of companies (or divisions of companies) that are financed mainly by debt. Such acquisitions can create value as a result of debt being cheaper than equity.
- **Strategically Motivated Mergers**, value creation from M&A is the result of their potential to increase the profits of the firms involved. They are subdivided in four marco branches:
 - *Geographical extension mergers* are the principal means through which companies enter foreign markets. If we go back in years, between 1980 and 2003, HSBC is a clear example since transformed itself from a local Hong Kong bank into one of the world’s leading global banks, this happened through the acquisition of 17 different banks across 12 different countries. Similarly, Luxottica has become the world’s largest supplier of eyewear through a series of cross-border acquisitions, including Lens Crafters, Ray-Ban, Sunglass Hut, Oakley, and Grupo Tecnol. Acquisition action allows a firm to rapidly reach the critical mass within an overseas market and to overcome the “liabilities of foreignness” (traced especially by lack of brand recognition, lack of local knowledge, lack of local connections, and barriers to distribution)⁴⁰.
 - *Diversifying mergers* are strongly related with acquisitions, which is the predominant way of diversification for firms. The alternative, the diversification by sort of spin-off of new business start-up, is too slow for most companies. While internal “business incubators” can successfully develop new business ventures, such start-ups seldom provide the basis for major diversifications. By

⁴⁰ L. Erel, R. C. Liao, and M. S. Weisbach, “Determinants of Cross-Border Mergers and Acquisitions” *Journal of Finance* 67: 1045–1082; 2012

contrast, acquisition allows firms to quickly establish a major presence in a different sector. IBM's transition from a hardware to a software and services company is an excellent example since it involved the acquisition of 115 companies between 2000 and 2011.

- *Horizontal mergers* can increase profitability given cost economies and enhanced market power; this result come from combining firms that compete within the same market. US airline mergers, including United and Continental Airlines, American and US Airways, and Delta and Northwest, had been a famous event of this kind of merger and it has played a major role in eliminating excess capacity, exploiting scale economies, and moderating price competition in the industry.
- *Vertical mergers* who involve the acquisition of either a supplier or a customer, this can also be a strategy of vertical integration.

Linking this information to the automotive sector, recently some car producers have merged or partnered among each other to share knowledge and to exploit different competitive advantages (for example Fiat-Chrysler Automobiles and PSA Group or Renault-Nissan-Mitsubishi alliance).

4.2 Mature Industries Management

As we said above, automotive dealership gives to sector employees clear signals of maturity of the business, and it is strongly supported by tons of researches in business model innovation that have been published in recent years. Then, it's important to better evaluate, from a literature point of view, how to stay afloat when a shift of paradigm is needed. Maturity undermines profitability in two ways. First, overcapacity and commoditization increase competition. Second, competitive advantage is more difficult to establish and sustain as a result of: difficulties in exploiting differentiation advantage resulting from better informed buyers, product standardization, and lack of technological change. Diffusion of process technology means that cost advantages are difficult to obtain and sustain. Once a cost advantage is established, it is not solid. A highly developed industry infrastructure together with the

presence of powerful distributors makes it easier for new entrants to attack established firms, increasing what is called “threats of new entrants”.

In the competitive advantage rush four concepts are crucial: cost advantage, customer segmentation, differentiation and innovation.

- **Cost Advantage**

Commoditization makes cost efficiency as the primary basis for competitive advantage in many mature industries. Three cost drivers tend to be especially important:

- Economies of scale: in capital-intensive industries, economies of scale are important sources of cost differences between firms. The increasing of standardization that lead maturity assists the exploitation of such scale economies. The significance of scale economies in mature industries is indicated by the fact that the linkage between return on investment and market share is stronger in mature industries than in emerging industries⁴¹.
- Low-cost inputs: the quest for low-cost inputs explains the migration of maturing industries from the advanced to the newly developed countries of the world, in certain cases, when also operations are transferred to these countries, the phenomenon is the so called: ”offshoring”. Established firms can become locked into high salaries, benefits and inefficient working practices inherited from more prosperous times. In this state of art, new entrants into mature industries may gain cost advantages by acquiring plant and equipment and by cutting labour costs.
- Low overheads: some of the most profitable companies are those able to minimize overhead costs, especially in mature industries.

Another problem of mature industries is cost inefficiency, this issue require cost reduction and it generally implies drastic interventions. Corporate restructuring, demanding periods of structural and strategic change, typically involves cost reduction through headcount reduction, outsourcing, and downsizing⁴². Successful changing strategies in mature industries typically needs aggressive cost cutting together with measures to strongly increase productivity⁴³.

⁴¹ R. D. Buzzell and B. T. Gale, “*The PIMS Principles*”. New York: Free Press: 279; 1987

⁴² R. Cibin and R. M. Grant, “Restructuring among the World’s Leading Oil Companies”. *British Journal of Management* 7: 283–308; 1996

⁴³ D. C. Hambrick and S. M. Schechter, “Turnaround Strategies for Mature Industrial-Product Business Units”. *Academy of Management Journal* 26: 231–248; 1983

- **Customer segmentation**

Even unattractive industries could offer appealing niche markets with strong growth of demand, few competitors, and important potential for differentiation. As a result, segment selection can be a key determinant of differences in the performance of companies within the same industry. In the auto industry, for example, there is a constant quest to escape the intense competition of most market segments with “crossover” vehicles that span existing segments. The mass market orientation of most of players, creates opportunities for smaller players to gain shares on new market niches by supplying underserved⁴⁴ or unknown customer needs (quest of “blue ocean”)⁴⁵. The logic of segment focus implies further disaggregation of markets, down to the level of the individual customer. In this regard, information technology enables new approaches to customer relationship management (CRM), giving possibility to analyse individual characteristics and preferences, identify the individual lifecycle value, organize targeted marketing policies and integrated approaches to customers.

- **Differentiation**

On the other side of competitive advantage there is the strategy of differentiating to attain some insulation from the rule of price competition, but, as it has written before, the trend toward commoditization also reduces customer willingness to pay a premium for differentiation. The following examples better explain results of differentiations choices in mature industries:

- In tires and domestic appliances, companies’ investments in differentiation through product innovation, quality, and brand reputation have generated disappointing returns due to high competition, price-sensitive customers, and strong, aggressive retailers.
- Attempts by airlines to gain competitive advantage have met little market response from consumers. They though to offer more legroom, provide superior in-flight entertainment, and achieve superior punctuality. On the contrary, the only effective differentiators appear to be more flight variety than general flight experience, as frequent-flier programs and services offered to premium class travellers. On another hand, if we think about consumer goods, maturity often means a shift from physical differentiation to image differentiation.

⁴⁴ C. Boone, G. R. Carroll, and A. van Witteloostuijn, “Resource Distributions and Market Partitioning: Dutch Daily Newspapers 1964–1994” *American Sociological Review* 67: 408–431; 2002

⁴⁵ W. Chan Kim, Renée Mauborgne, “Blue Ocean Strategy”. Harvard Business Review; 2005

- **Innovation**

So far, we associated mature industries as industries where technical change is slow. In fact, in many mature industries (steel, textiles, insurance, and hotels) R&D expenditure is below 1% of sales revenue, while in US manufacturing as a whole only three sectors account for 65% of R&D spending⁴⁶, they are computers and electronics, pharmaceuticals, and aerospace.

If we measure the patent activity, we find something strange respect on what we have already written: some mature industries are as innovative as emerging industries. Despite an increased trend of technological change in many mature industries, most opportunities for building competitive advantage are linked to strategic innovation (new game strategies and blue-ocean strategies). When business models become obsolete, therefore, this problem affects also the value chain, generating the needs of a strong reconfiguration⁴⁷. In order to solve the question firms can start strategic innovation by redefining markets and market segments. This action may involve:

- Augmenting, bundling, and theming by bundling additional products or services with the core offering. This strategy represents some of the most successful approaches to differentiation in mature industries. For example, in book retailing, Barnes & Noble offers not only a wide range of titles but also Starbucks coffee shops within its stores, then, moving to Sweden, Ikea provides also Swedish food in its shop leveraging on customer experience⁴⁸.
- Liberation from the maturity mindset: managers in order to create competitive advantage should free themselves from the cognitive limits associated with notions of maturity.
- Embracing new customer groups, as Harley-Davidson did, creating a market for expensive motorcycles among the middle-aged.
- Customer solutions: it is another approach to differentiation built on bundling products and services to offer customer solutions, an integrated bundle of products and support services that are offered as a customized package, as it is clear to understand it is strongly related to the first action described above. Even here example clarifies, Alstom's rail transport division has transitioned from

⁴⁶ National Science Foundation, *Research and Development in Industry*: 2002 (www.nsf.gov/statistics/industry).

⁴⁷ Robert M Grant, *Contemporary Strategy Analysis*. Wiley; 2016

⁴⁸ B. J. Pine and J. Gilmore, "Welcome to the Experience Economy". *Harvard Business Review*: 97–105; 1998

“being a supplier of goods to a system and service provider”: rather than supplying locomotives, rolling stock, and signaling systems as sole items, it offers “complete transport solutions for train availability during the life cycle of the product”⁴⁹.

So far, we have analysed which are the key concepts that have to be considered when mature industries competitive advantage has been approached. Despite that, a fundamental question remains: How do companies break away from the pack and achieve strategic innovation? Dealing with industry conventions requires confronting industry-wide systems of belief. This implies that managers need to find ways of revolutionizing their mental frameworks through which they perceive and understand their industry environments⁵⁰. In this regard, this may explain why strategic innovation in mature industries is so often associated with firms that are either outsiders or peripheral players.

Whatever industry a company operates, operational efficiency plays an important role. In mature industries this feature has a more pivot status in the competitive advantage establishment; however, as we have seen, cost efficiency must be aligned with innovation and customer responsiveness. So, what kinds of strategy implementation need to be adopted among mature and declining businesses?

4.2.1 Trends in strategy implementation

When competitive advantage in mature industries was all about cost advantage through scale and division of labour, management practices based upon standardized processes, hierarchical control, quantitative performance targets, elaborately defined rules, and incentives closely linked to individual performance work well. However, as we have analysed before, the key features for success in mature industries and the strategies needed to achieve success have become much more complex. Flexibility to exploit low-cost inputs and to outsource to low-cost specialists, together with creating an organizational environment that constantly tries to eliminate waste and discover new sources of efficiency, have become more important than scale advantages.

⁴⁹ A. Davies, T. Brady, and M. Hobday, “Organizing for Solutions: System Seller vs. System Integrator”. *Industrial Marketing Management* 36: 183–193; 2007

⁵⁰ P. S. Barr, J. L. Stimpert, and A. S. Huff, “Cognitive Change, Strategic Action, and Organizational Renewal”. *Strategic Management Journal* 13: 15–36; 1992

In mature industries the efficiency leaders are not necessarily the biggest firms able to reach minimum efficient scale, but they are more likely to be companies that have implemented performance-oriented management systems dedicating themselves to efficiency. If we analyse top-performing companies in mature businesses, for example UPS in delivery services, Walmart in discount retailing, ExxonMobil in petroleum, they have integrated management systems, where performance goals are the pole star of strategy, working on financial controls, HR policies, and operating practices which are closely tailored to these goals. As a result, disaggregation of company-wide goals into specific performance targets for departments and individuals is necessary to unify an organization that follows the doctrine of pursuit of efficiency.

Associating differentiation and innovation with a constant quest for cost efficiency creates difficult challenges for designing management systems that promote these goals without changing the pillars of cost minimization. Internal differentiation is the conventional model for reconciling efficiency with innovation in mature companies and is based on innovation and entrepreneurship as leader of specialist R&D, new product development, and business development units.

Technological substitution can be one of the triggers of the transition from maturity to decline, as shifting from typewriters to photographic film teaches. Other causes can arise from changes in consumer preferences, demographic shifts, or foreign competition.

Each declining industry has six common features, they have:

- High average age of both physical and human resources;
- High level of price competition;
- Lack of technical change;
- Excess capacity;
- Declining number of competitors;
- New entrants acquire assets of established firms cheaply.

Which are the core variables that determines whether a declining industry becomes a competitive war room? Two factors: the balance between capacity and output, and the nature of the demand for the product.

- **Adjusting Capacity to Declining Demand**

In order to gain stability and profitability during the decline phase, flexible adjustment of industry capacity shaped on the declining demand affecting the business represents the key action. In industries where capacity exits from the industry in an ordered way, decline can occur without trauma. Where substantial excess capacity persists without any instruments that permits to actors to share capacity and cross-optimization of demands' peak and valley, the potential exists for destructive competition (as has occurred among the oil refineries of America and Europe, in the bakery industry, in coal mining, and in long-haul bus transportation).

The factors that permits easiness of capacity adjustment to business demand are the following:

- *Barriers to exit*, they impede the exit of capacity from an industry. The major constraints are:
 - Costs incurred in plant closure. Substantial cash costs may be incurred in inessential payments to employees, decommissioning the plant, compensation for broken contacts with customers and suppliers, and environmental clean-up, without considering also the accounting costs of writing off assets.
 - Durable and specialized assets. Exactly as capital requirements impose a barrier to entry into an industry, symmetrically investments also discourage exit, restricting companies to industry.
 - Managerial commitment. Resistance to plant closure and divestment may arise from belief in company traditions and reputation, loyalties to employees and the local community, and managers' unwillingness to accept failure.
- *The predictability of decline*: If decline can be forecast, it is more likely that firms can plan for it. On the contrary, the more cyclical and volatile the demand is, the more difficult it is for firms to perceive the trend of demand.
- *The strategies of the surviving firms*: the level of exit of capacity depends on the willingness of the industry players to divest assets and close plants. Stronger firms in the industry can facilitate the exit of weaker firms by offering to acquire their plants and take over their after-sales service commitments. A key strategy among private equity firms has been initiating roll-ups in declining industries, giving rise to multiple acquisitions.

4.2.2 Strategy alternatives for declining industries

If we use a classical approach, conventional strategy recommendations for declining industries are either to divest or to harvest. However, these strategies assume that declining industries are unprofitable. If we use a more alternative approach and we suppose that profit potential exists, then other strategies may be attractive. Harrigan and Porter identify four strategies that can be profitably pursued either individually or sequentially in declining industries⁵¹:

- Harvest: a firm can maximize its cash flow from existing assets with harvesting, avoiding further investment. A harvesting strategy is focused on boost margins wherever possible through raising prices and reducing costs by simplifying the number of channels, number of customers, and the number of models.
- Divest: If the future looks bare, the best strategy may be to divest the business in the early stages of decline before inevitability of decline would imply in chief minds, going towards extreme difficulty to find buyers.
- Leadership: a firm, in order to be well placed to outstay competitors and play a dominant role in the final stages of an industry's life cycle, must gain leadership. Once leadership is achieved, the firm is in a strategic position that enable to switch to a harvest strategy and enjoy a strong profit stream from its market position. Gaining leadership strategies can be done by acquiring competitors, but a cheaper way is to encourage competitors to exit.
- Niche: pursue a leadership strategy to establish dominance within the segment that is likely to maintain a stable demand and that other firms are unlikely to invade. The most attractive niches are those that offer the greatest prospects for stability and where demand is most inelastic.

In conclusion, potential profit of the industry and the competitive position of the firm must be careful assessed in accordance to find the most appropriate strategy.

⁵¹ K. R. Harrigan and M. E. Porter, "End-Game Strategies for Declining Industries". *Harvard Business Review*: 111–120; 1983

Strategy Alternatives for a Declining Industry

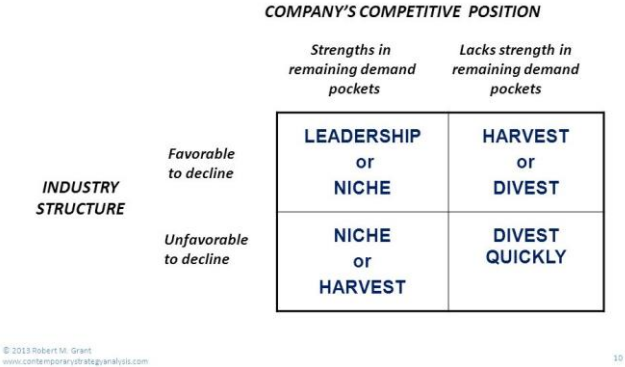


Figure 8 - Strategic alternatives for declining industries

5. Digital Transformation

So far, we have written about interconnections between business and technology, highlighting new trends. In this direction, a chapter on Digital Transformation it is needed in order to go further in the technology enabler details. We will see how information technology has changed during years, and how the connections between business work. We will analyse the digital transformation itself, form different point of views, and we will explain two interesting words that often arise from business talks: customer engagement and digitized products. To sum up, business is changing, so as the technology with this incredible concept of digital and its applications.

5.1 The role of IT strategy from an historical perspective

Multiple steps had been walked since the start of the First Industrial Revolution and, throughout history, new technologies were invented, implemented and exploited. Every piece of new technology introduced in the social-economic environment has brought either new products or new ways of producing, or a combination of both.

The First Industrial Revolution was about mechanizing production with the aid of water and steam power, whereas the electric power, and the consequential entrance in the mass production era, was the core of the Second Industrial Revolution.

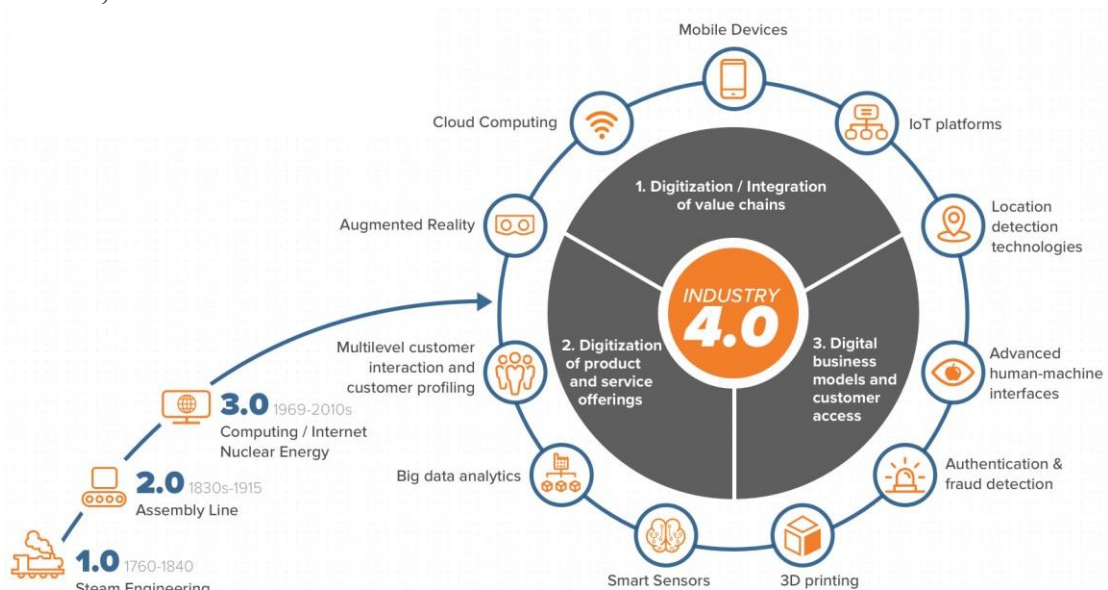


Figure 9 - Industrial revolution innovation

Even if the revolutions were profound and deeply affected the production processes, only the Third Industrial Revolution started to concentrate on the power of information. The introduction of computer and internet created the interconnection among internal and external networks.

That is the start of the so-called “digital revolution”: the advancement of technology which enables the shift from a pure analogic and mechanical electronic technology to the employment of digital electronics. The outcome was that the peculiarities of digital data make information increasingly shareable, replicable and deliverable.

The possibility of managing data in a completely renewed modality have opened new opportunities to improve existing businesses and to create new ones. It has helped to enhance both productivity and efficiency and to eradicate the product-centric paradigm to embrace a new one, more customer-oriented. As we wrote in the previous chapters, the complete customer-centricity is the current target to all companies worldwide and, for the features of this paradigm, it requires the introduction of new technologies and more modern information systems. The digital transformation, at the basis of the fourth industrial innovation, is an important step towards this direction.

The acronym ICT stands for “Information and Communications Technology” and it refers to the technologies aiming at processing, computing and communicating information. These instruments help organizations in gathering data from multiple sources, storing them, elaborating in the most proper way to extract value (in the form of insights or analysis) and sharing them with all the actors who can benefit from them.

Technology can be the tool through which a firm is able to reach a goal, but it will be always a simple tool. Businesses should study how to manage data within their borders and thinking the information systems can best support their needs.

The traditional classification of Information systems is based on the firm’s hierarchy and it can be part of one of the following categories:

- Executive information systems;
- Decision support systems;
- Management information systems;
- Transaction processing systems;

According to this categorization, IS, and consequently IT as well, have the function of supporting internal and external processes without interfering in the definition of themselves. Although the hierarchical perspective had been proved wrong by the evolution of organizations

(more flexibility and flatness in firms' internal hierarchy) and process classifications had not succeeded too, we will not discuss further about the most proper way of representing ISs.

What is fundamental is to understand the information systems cycle underlying every business we come across and then seeking out main phases may be common to different ISs.

The key point in collecting data is to gain more information about the environment around an organization: information is a complex product which must go through a transformation process in order to be useful. Like a manufactured product, information needs some raw materials, a production process and then be distributed. The features of being both intangible and constantly enhanced makes the information system cycle a sort of transformation process which feeds itself.

The raw materials needed are data. In the view of an integrated information systems, people or the information technologies in charge of satisfying this requirement, is the operational level. Transaction process systems, more operational than other typologies, is built with the aim of carrying out daily activities and automating some of them whereas those are extremely simple. The inception of such data makes the cycle begin. If the data are the raw material, the production process consists in two different steps, the first one involves the storage of data and the second the analysis (using analytics tools). The ultimate phase is the one concerning the generation of insight which can be spread throughout the company or to the ones interested in having an in-depth analysis of past performances.

The competitive market has deeply changed in the last years and the larger the amount of information there are, the more the competition is harsh. Since competitors are constantly looking for new business opportunities to be caught and customers are looking for someone who cares to provide solutions (shifting from the older product-centric value proposition), firms must adopt measures to gain insights, flexibility and dynamism. In this direction, data integration is the central point.

The word "integration" refers to the process by which some linkages are created among different assets, processes or single activities in order to streamline the company.

Before moving to some more considerations on this topic, it is mandatory to define the technological side of an information systems.

The information technology at the base of every information systems consists of:

- *Hardware*, basically the physical devices needed to permit software to perform.
- *Software*, the programs which harness the computing power of hardware, programming the activities which must be carried out.

- *Databases*, consisting of the infrastructure required to store data.
- *Procedures*, which are the commands set as rules of how the system (activities included) must be performed.

If hardware has always been the same throughout history, the other elements are affected by the philosophy behind IT and its consideration.

Historically software had been developed specifically for the firm which required it, creating customized software which cannot be replicated in other realities. This strategy leaves aside the drawback for software producers and the consequence of such modality of acquiring software was a functional perspective of IS and an extremely fragmented firm internally. Where there is lack of integration lies an array of opportunities which would not be caught.

The growing relevance of software within firms' boundaries and an enhanced understanding of IT potential brought the development of the first enterprise systems. It was a modular integrated software aiming at covering all the function a firm performs with a single database at the core. Despite the configurability of such product, the degree of freedom left to organizations was tied to the software providers' development path. Businesses, which they were supposed to take the decisions which can best meet their needs, were unable to do that for the lack of proper solutions available on the market. The rise of the Enterprise Application Integration (here in after EAI) seeks out a new way of creating a personalized IT infrastructure.

EAI is based on a new paradigm which is less interested in which application must be implemented and more about the creation of linkages among applications (either pre-existent or newly acquired). Operatively, the integration consists in a new intermediate layer that must be developed: the middleware. It will be the mean of communication of applications and database. Very close to this approach is the Service-Oriented Architecture. The difference between EAI and SOA is that the former is about creating a communication channel among applications and "batching" data provided into a database, while the latter does not require third-parties operations.

In this context fourth industrial revolution is fated to turn upside-down businesses, products and IS solutions. A larger availability of data will let companies modify products and service to offer a new value proposition, which requires digital transformation to happen to succeed.

5.2 Alignment between business strategy and IT strategy

The role of IT has changed radically in the last thirty years and the acquired importance led to a new context. On the other hand, defining which path has to be followed: information technology cannot be relegated to a secondary role, or at least, it cannot be now. Data are considered the new oil and the digital transformation is about open some many new business opportunities that it would be unwise to keep on looking business strategy and IT strategy as separated.

Strategic IT planning process has evolved in different patterns over the last forty years.

The evolution can be summarized in three main phases⁵²:

1. Efficiency-seeking IT planning;
2. Business-supporting IT planning;
3. IT planning as Strategic Alignment.

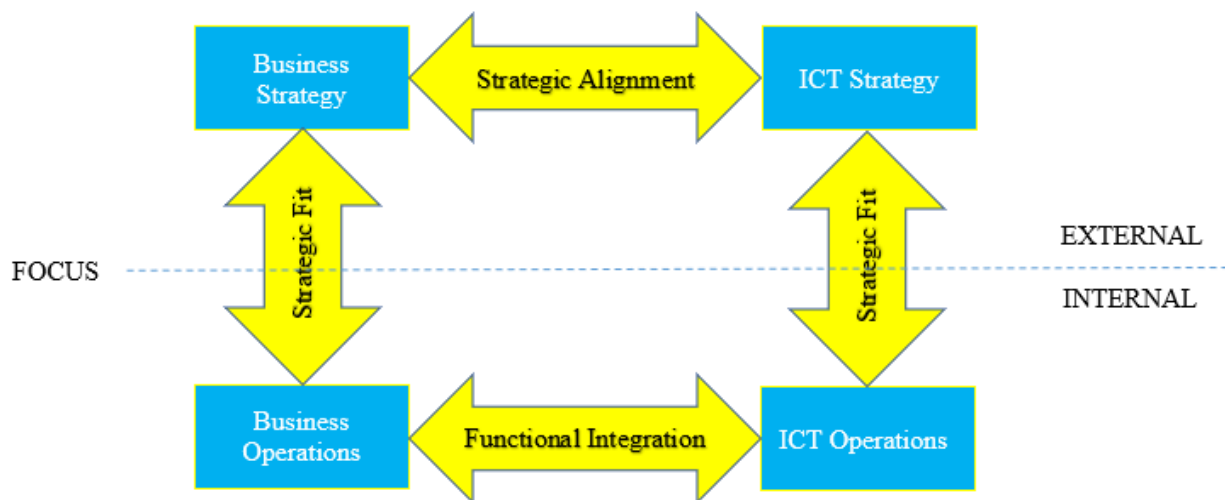


Figure 10 - Strategic alignment: Leveraging Information Technology for transforming organizations

In the first era of IT planning, it is evident how IT was viewed as an enabler of the business strategy. The planning process was mainly about understand the technological requirements and the available systems which can support the business strategy, which was the most

⁵² John C. Henderson, N. Venkatraman “Strategic Alignment: A process model for integrating information technology and business strategies”. Cambridge, Mass. : Center for Information Systems Research, Sloan School of Management, Massachusetts Institute of Technology; 1989

important and basically the only worth defining. Even if the procedure by which IT planning was carried out was well-defined, this approach showed a more tactical function, a sort of day-by-day vision that does not consider the path dependency in the long-run.

The second evolutionary step resulted from a deeper knowledge accumulated in IT potential. Technology was no longer seen as an element that can help to perform some activities, a sort of facilitator, but as an element affecting the firm's competitive position.

IT strategy started integrating with business strategy, which was erroneously seen as a stable one, losing sight to an economic environment that was getting increasingly dynamic.

The realization of how dynamism may influence firms' performances and how strategy was moving to a more unstable landscape made the planning process, both business and IT, more concerned of deciding whether to be proactive or reactive to external factors.

Strategic fit among business strategy, IT planning and IT infrastructure is key to be competitive.

The most important shift is the breaking of barriers between business strategy and IT strategy: one strategy where business and IT aspects must be managed to reach a common goal. Moving from a theoretical perspective to a practical one, empirical research exhibits how organizations that align in a successful way their business and IT strategy outperform those that do not.

It can be said then alignment permits to use IT more efficaciously and strategically, enhancing overall performance⁵³.

Having explicated the importance of the alignment of IT (and all the future technological innovation which can be implemented) and the business aspects, it is possible to move to the core of nowadays concerns: digital transformation impact on businesses and how to be ready to harness all the new opportunities.

5.3 Definition of Digital Transformation

One of the most current cited phrases in business environment is "Digital Transformation": although everybody wants to pursue it, there is no unique definition, turning it into a catch-all term.

Methodologically speaking, digital transformation (DT) may easily confuse businesswomen

⁵⁴ Yolande E. Chan, Blaizad Horner Reich, "IT alignment: what have we learned?". Journal of Information Technology 22; 2007

and businessmen making them think that this term means to implement cutting-edge technologies, just for their being innovative and new.

The paper “*Digital Transformation: A literature review and guidelines for future research*” written by Joao Reis, Marlene Amorim, Numo Melao, and Patricia Matos tries to shed light on the actual meaning of digital transformation. What emerged is that DT is driven by three dimensions of change: technological, organizational and social. Before getting into the detail of definitions, it is worth underlining how the social aspect is often underrated even if it is the engine of all major shifts. People change the way they live and interact one another and, consequently, the way they would like to interact with firms.

The plainest definition it can be used to have an immediate understanding of the main concept: “Digital Transformation is the use of technology to radically improve performance or reach of enterprise⁵⁴. This explanation is as simple as effective”. The technology itself does not worth the effort it is demanded to keep up with competition, but competitive advantage can be found in implementing technology potential to improve business performance. Technology is a tool, not a goal. Two years later “*Embracing Digital Technology: A new strategic imperative*”⁵⁵ published by the MIT Sloan Management Review, gave a more detailed definition:

“Use of new digital technologies, such as social media, mobile, analytics or embedded devices, in order to enable major business improvements like enhancing customer experience, streamlining operations or creating new business model”.

This definition has two main advantage:

1. It explains which sort of technology can allow to undertake the DT journey.
2. It shows which are the goals firms should be willing to reach at the very end.

IT evolution has brought to the development of the so-called “SMACIT” technologies (Social, Mobile, Analytics, Cloud and Internet of Things). The implementation of them provides more data available, more pervasive connection with customers and completely new services and products which were not even thinkable some years ago. DT is a strategy to enhance business performance that can take the form of customer experience improvement, product enhancement, efficiency improvement, and new business model which can radically modified

⁵⁴ George Westerman, Claire Calmèjane, Didier Bonnet, Patrick Ferraris, Andrew McAfee, “Digital transformation: a roadmap for billion-dollar organizations”. Capgemini Consulting and MIT Sloan Management; 2011

⁵⁵ M. Fitzgerald, N. Kruschwitz, D. Bonnet, M. Welch; “Embracing Digital Technology: A new strategic imperative”. MIT Sloan Management Review; 2013

firms' cost and revenue structure.

Independently from the goal a firm is willing to pursue, the transformation is driven by a rethinking of business processes. If business process reengineering was the first step of silos department structure deconstruction in favour of processes, DT integrate processes in order to gain more insights, more business opportunities, more customer data.

Much has been said about business and IT strategy alignment, Digital Transformation seems to be the concretization of this path. If IT strategy has the function to create the technological infrastructure and the information flows, DT can be classified as a managerial shift at the intersection between the two strategies. This overlapping forces firms to elaborate strategies drawing an increased attention to the technological side of competition. That does not create only strategic planning issues, not only a shortage of time to adjust direction when environment changes, but especially new organizational capabilities. Organization change, and change management as well, are key to succeed in the transformation process.

Scholars are still divided into two categories: the first one thinks Digital Transformation is not a novelty and it is a sort of “rebranding” of Business Process Re-engineering’s principles, the other one argues how DT has some elements of novelty.

Probably the truth lies in the middle. Digital Transformation and Business Process Re-engineering are both finalized to enhance business effectiveness, and both break firms into processes in order to understand internal flows interactions. By the way, what makes the two practices different, is that BPR focuses on create the right connection among activities to gain greater efficiency while Digital Transformation is not constrained to it.

ERP implementation is the technological result of BRP’s principle application. It is not possible to identify the equivalent example for DT because of the wideness of digital technologies applicable and the pursuable purposes thank to them.

Despite all, the most important difference is that BPR arose when businesses understood how data aggregation can be potentially powerful, otherwise Digital Transformation occurred when this powerfulness can be released.

5.4 The Digital Transformation’s path

Business landscape had been revolutionized by the advent of digital technologies, both in term of the minimum requirements to be competitive in the market, and of the structure of

competition itself. The volume and pace of innovation in technological field is so rapid that most companies are struggling to keep pace with the number of different devices and new platforms in the market. The importance of technology is directly linked to what it empowers people to do and how it alters the human experience.

Large and established firms had to tackle the first signals of digital transformation, while many start-ups had been set up: competitive environment became more challenging because “large firm” was no longer synonym of more power and start-ups were set to turn upside-down the market equilibrium.

Digital transformation obliges companies to deal with new digital technologies, new social interactions among people and new business model enabled by the combination of both. Start-ups, without any path dependency and culture already embedded in the firms, are more flexible and less resistant to change. Conversely, established firms must understand how to conserve their competitive advantage, how to leverage on their past and to find their place in the digital competition as well.

It seems obvious that big tech firms such as Amazon, Google, Facebook and Apple can provide examples of how to be a new-millennium large player. But those firms were start-ups which challenged the status-quo, they were small players which navigated digital revolution so well to dominate the market. Established firms, independently by their size, had already developed some legacy, starting from a business perspective, through a cultural one, to an organizational one. They must go through a transitional journey. It is also true that, in order to maintain competitiveness, existing firms need to move towards a more “Silicon Valley start-ups approach”, known for their agile decision making, rapid prototyping and flat structures.

The word that best described the process of digital transformation is uncertainty: changes need to be made provisionally and then adjusted a result, adopting methodologies which Eric Ries wrote in his book “The lean start-up” (philosophically speaking).

According to a McKinsey Global Survey on digital transformations carried out gathering 1793 firms’ responses, more than 8 out of 10 of them said their businesses have undertaken such efforts in the past five years. Yet success in these transformations is proving to be elusive, since only 16% of such firms can affirm their transformation ended up with any form of performance enhancement. This means that, although firms seemed to understand the importance of revolutionizing their own businesses, the whole process is more challenging than they thought. In the previous pages it has explained what “digital transformation” means and what appeared to be clear is that those technologies are the core of this new era. New sources of data are

creating brand-new value proposition, new digital capabilities, new business model. But the more important feature of this technologies and data is accessibility. The following picture has the function of explicating which are the most adopted technologies with a comparison of how much they are implemented by firms that reported a success in DT.

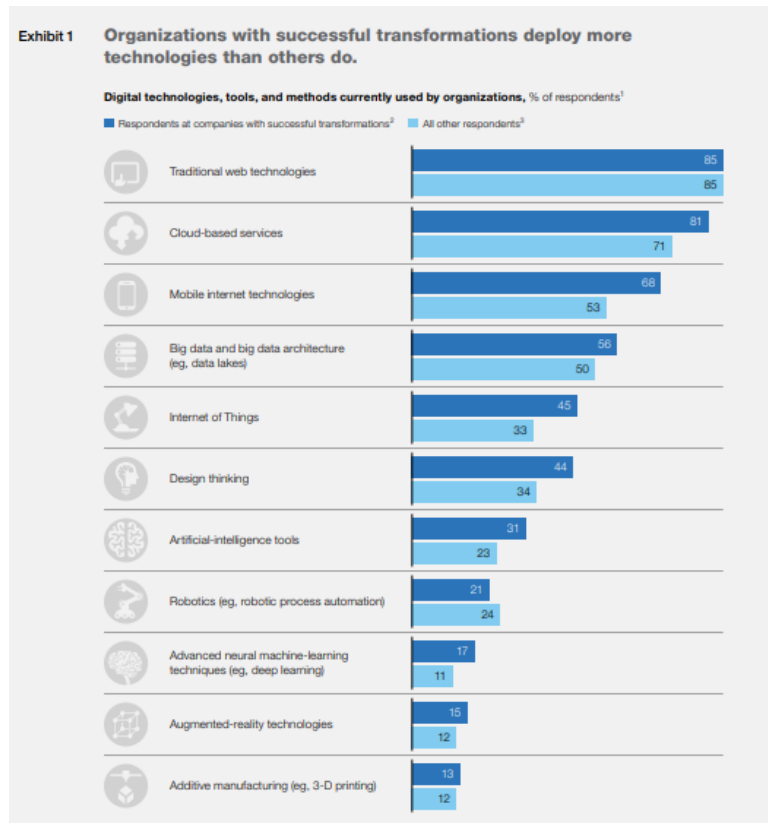


Figure 11 - Digital Technologies deployment

Accessibility of digital technologies is crucial to make DT reachable by every firms. It is this peculiarity itself which makes their application easily replicable and, by definition, not source of sustainable competitive advantage⁵⁶. An uncomplicated implementation of new piece of technology is an ally of small firms, which are more receptive to change and more dynamic. Large firms must be aware that the only way left to succeed is to create something difficult to replicate, so to gain a refreshed competitive advantage⁵⁷. Business capabilities must be combined with new digital ones. The digital transformation value still lies in strategy.

In the research paper “Designing and Executing Digital Strategies”, elaborated by Ross et al. in 2016, came up with the three fundamental elements leading all digital transformation’s

⁵⁶ Gabriele Piccoli, “Information Systems for Managers”. Wiley 2nd Edition; 2012

⁵⁷ Mata, Francisco; Fuerst, William; and Barney, "Information Technology and Sustained Competitive Advantage: A Resource-Based Analysis". MIS Quarterly; 1995

processes. They are:

1. A *digital strategy*, which describes the aim the company is seeking to pursue through the transformation initiative.
2. An *operation backbone*, meaning the technological architecture needed to guarantee operational excellence.
3. A *digital services backbone*, to facilitate introduction of innovations and to be more responsiveness to market changes.

Business and IT strategy are part of a singular planning process and one without the other becomes meaningless, useless and leading nowhere. Digital strategy is a pure business domain while backbones are strictly related to IT. From this list it is evident how digital transformation is a journey that must be designed properly before undertaking it.

At the first glance, this paper seemed to provide all the elements needed to run a digital transformation process. As literature something forgets is that cultural-related issues are one of the biggest obstacles to be overtaken in business environment.

5.4.1 The business side of digital transformation

The steering wheel of digital transformation is on business' hands. Business strategy is the pole star of the overall strategy and for that reason, a firm, before undertaking this journey, must ask itself where it wants to arrive, what the goal is. In digital transformation domain, business strategy is essentially a "digital strategy".

A digital strategy is defined as "*a business strategy, inspired by the capabilities of powerful, readily accessible technologies (like SMACIT), intent on delivering unique, integrated business capabilities in ways that are responsive to constantly changing market conditions*"⁵⁸.

There are two main digital strategies a firm might try to pursue. The first one is more concerned of enhancing customer engagement, the second one instead focuses on the creation of digitized solutions. The choice between one of the two digital strategy allows the firm to integrate new processes and new attitudes around clear principles, increasing the probability of success.

⁵⁸ Jeanne W. Ross, Ina M. Sebastian, Cynthia Beath, Martin Mocker, Kate G. Moloney, Nils O. Fonstad, "Designing and Executing Digital Strategies". Thirty Seventh International Conference on Information Systems, Dublin; 2016

When a firm undertakes a strategy, this does not mean that the element of the other will be left aside, but all the decision will be driven by the purpose of either create a more appealing customer experience or a more connected product.

5.4.1.2 Customer engagement strategy

The main interest of this strategy is to transform the approach by which the firm interact with their customers or their prospects. The only way a customer can feel loyalty, trustworthiness and passion to one brand is when the latter is able to deliver a superior customer experience, tailored-made to his/her personality, taste and needs. This customer experience is basically the result of two key aspect of interaction: where the client wants to interface the firm and how she wants to do that.

In Accenture report “Digital Transformation - Re-imagine from the outside-in”, business success has been directly related with companies’ capabilities of beginning a customer-focused digital transformation. That can happen prioritizing a superior and relevant customer experience and aligning the organization, processes and technology to power it.

Customers are changing their habits and they are not used to a strictly physical experience anymore: everyone own some digital devices which have radically modified the way they interact with others. Internet opened the opportunity to be completely free to decide when and where to look up for information. That has also business consequences: potential customers are changing how they shop and interact with firms. And firms must be able to realize this shift and be responsive to change.

Customer experience relevance – and customer opinion – is exemplified by Harvard Business Review that, among five lessons learned about digital transformation, mentioned that “If the goal of DT is to improve customer satisfaction and intimacy, then any effort must be preceded by a diagnostic phase with in-depth input from customers”⁵⁹.

Some years ago, it was the multichannel experience ages, but now it seems to be over. Omnichannel experience has substituted it, as the experience customers are willing to be part of.

⁵⁹ Behnam Tabrizi, Ed Lam, Kirk Gerard, Vernon Irvin, “Digital Transformation Is Not About Technology”. Harvard Business Review; 2019

➤ *The Omnichannel experience*

Digital technologies have radically changed consumers' and producers' behaviour and how their interactions work. For that reason, it is fundamental to analyse these shifts to understand the future of customer experience, especially for what concerns retailing businesses.

Firstly, the increased digital density has brought to the "democratization of information". Customers can find information about products and services (availability, prices, attributes) whenever they want through digital channels. The more they get used to satisfying their needs exploiting internet, the more they want to carry out the whole purchasing process the same way. As a result of that, firms are no longer in control of information and their power over the content created.

An incremental digital interconnectedness opened new opportunities of interacting among people. If this is true for individuals, it is also true for what they expect from firms.

Customers are moving towards products' online reviews, written by other customers, to be advised whether to buy product and service. This large amount of exchange of information obliged the firms to have a consistent online presence to extract value out of direct interactions instead of hurting itself without intervening when customers are unhappy. Furthermore, firms are asked to deliver 24/7 experience through the combination of channel and innovation in terms of automation.

The last major shift affecting the customer-producer relationship is the shifts in producer behaviour. The empowerment of customers urges firms on modifying their approach in the offering definition. If customers can take advantage of democratization of information, producers can do the same for customers' interactions information: the more firms know their clients, the more can personalize offerings. The consequence is an augmented customer-centricity.

But "*Customers do not think about channels. They do not think about cross-channel, multi-channel or omni-channel. All that customers are really concerned about is finding an answer to their current needs or desires in a way that is convenient, enjoyable and offers them good value, both in terms of money and use of their time*"⁶⁰.

Customers are looking for a purchasing experience that can satisfy their needs in the modality they prefer and omnichannel experience seems to reflect it.

⁶⁰ Glenn Cook, "Customer experience in the omnichannel world and the challenges and opportunities this presents". Journal of Direct, Data and Digital Marketing Practice; 2014

When digital economy began to have a role in business context, multichannel experience was the “must to succeed”. With that term it is meant the strategy by which a firm can meet customers touchpoints with more than one channel. The drawback lies in the fact that sometimes multichannel forces customers to fulfil some steps in a predetermined channel. Moreover, it is not an integrated experience, there is a sort of siloed architecture of customer experience. A person cannot completely decide which kind of experience wants but it is constrained by what firms let him/her do.

On the contrary, omnichannel experience is a total integration among physical and digital channel, permitting customers to switch whenever, wherever and how many times they prefer throughout all the touchpoints of purchasing process. The value of such experience stands in the degree of freedom let to customers, who is the protagonist of this journey and the one who can decide how to do it.

The first signal of this transformation has been in items which do not require any tactile contact to decide on the buying: Amazon started to conquer the market with books, a standardized product. Several steps had been walked since then, now customers are willing to buy online also when it comes to more important acquisitions such as household appliance. Some troubles are still present in more onerous investments.

Customers are used to undertaking buying process not only whenever they want, but whichever technology they have at their disposal. Firms are asked then to offer a consistent experience both desktop and mobile.

The value firms can create through this experience, it can get back in form of more loyalty: omnichannel customers promote the brand which are able to deliver the experience they want and reward the one which can offer the more tailored-made offer.

Technologically speaking, omnichannel retailing consist of a total redesign of infrastructure in order to ensure reliability of data, independently the channel they are coming from. Consequently, the same holds true for the use of data: if customer can switch among channels, the process must continue smoothly and seamlessly without any repetition required.

The main drivers of omnichannel experience assessment has been providing by BCG in its “Omnichannel Shop Experience Audit” in order to permit firms to adopt an outside-in perspective while designing their customer experience.



Figure 12 - Omnichannel Shop Experience Audit

The described areas are:

- *Orientation*, assessing how visible, accessible and user-friendly is the communication channel implemented by a business (websites, social media, mobile application).
- *Selection*, referring to the concrete purchasing experience in terms of how engaging is to select products or services.
- *Transaction*, underlying the importance of payment phase. To support the importance of such step, Amazon provides a clear example of it. “One-click” payment is one of the most importance success (and that is further stressed by Amazon’s patent about it).
- *Delivery*, the shop experience does not stop after payment, but delivery is as important as purchasing goods – if not even more competitive-advantage provider.
- *Customer care*, customer-centricity is founded on the assumption that customer must be followed incessantly to detect potential dissatisfaction or to exploit up-selling, or simply enhancing loyalty.

By the way, in the era of informed customers, in-store experience must change as well. A person who steps into a retailer is not seeking for basic knowledge of what she is about to purchase. Traditional retailing was the information holder, nowadays the customer is knowledgeable enough when enter the shop.

The role of vendors is changing and moving towards an advisory job: they must be expert of the products they sell, and they must know the customers when they walk through the door. For

that reason, digital technologies can be employed in in-store experience as well. Data gathered throughout interactions with customers can be examined and reused through several digital services in order to guarantee to be able to deliver additional value by advising them.

5.4.1.3 Digitized Solutions

Development of new kind of experience is not the only goal digital transformation can help to pursue. As experience is changing, so is doing products and services. Product and service have always been considered as two parallel lines that never touch each other, but new technologies are blurring the differences between them. Products are part of how the firms serves customers and the other way around. Firms must convert to digitized solutions.

A digitized solutions strategy assumes that a company must reformulate its value proposition. New technologies allow to embedded sensors and then to generate an endless flow of data which can be used to enhance the offering (or to offer new products/service). The added value of firms which decide to undertake this strategy is that, through the implementation of so-called “Internet of Things” products (IoT), they can improve their products (or the service related to them) by make customers use them. The redesigning of the value proposition and the feature of IoT create the conditions to radically change the firm’s business model. Over time, digitized solutions move the revenue stream from the on-off sale of the product, to recurring revenue from ongoing services⁶¹.

New value proposition will be then hugely based on data, which can be considered as the unique and protectable competitive advantage of the future. This advantage is even more accentuate when associated with AI and machine learning.

5.4.2 Cultural shift

“Digital transformation is sweeping the business landscape. Leaders are embracing it wholeheartedly because they recognize its power. But as companies advance from pilot programs to wide-scale adoption, they often run into an unexpected obstacle: culture clash”⁶². This is the introduction of a BCG’s report about the role of culture in digital transformation process. The cultural aspect of digital transformation is a topic highly considered in business

⁶¹ Michael E. Porter, James E. Heppelmann, “How smart, connected products are transforming competition”. Harvard Business Review; 2014

⁶² The Boston Consulting Group, “It’s Not a Digital Transformation Without a Digital Culture”; 2018

ancient literature, almost as relevant as technologies enablers.

When the business paradigm is to be radically revolutionized, people opposition may be one of the major pitfalls, so firms must tackle the human aspect become critical.

A digital culture typically has some defining elements⁶³:

- It promotes an *external orientation*, meaning that it encourages employees to look outward and engage with customers and partners to create new solutions. The main achievement can lead to is the attention on the customer journey.
- People need to feel that they can take *risks, fail fast, and learn*.
- It emphasizes *more action and less planning*. This does not mean that firms need to sail competition without doing any long-term planning activities, but basically, they focus on macro-goal. For example, if a business wants to pursue some improvement on customer experience, every action taken must reflect this willingness. The emphasis on action will bring to be innovative in the methodology to reach the goal.
- Its values *collaboration more than individual effort*. Prizing transparency over individualism, especially when it comes to data sharing.

5.5 A strategic path to digital transformation

As Barr Seitz, McKinsey's director of Digital Publishing and Marketing, said, Digital transformation can be compared to a Trojan horse⁶³: digital transformation is indeed a precursor of a broader business transformation where many aspects of operations are reviewed from different perspective (talent acquisition process, organizational structure, operating model, products and services). But even according to a digital transformation expert, culture is probably the hardest part of the organization to change because cultural transformation has deep legacy and cultural roots. That's seemed to strengthen the thesis that has been mentioned previously.

Business leaders' task is more difficult than ever: DT are enabled by 10 to 15 major technologies, which are very different from one another both in terms of applications and

⁶³ McKinsey Digital, "Digital transformation: The three steps to success"; 2016

implications. Since there is no playbook to manage such complexity, it can be useful to follow a general framework. Bain & Company's provides one, as shown in the following picture.

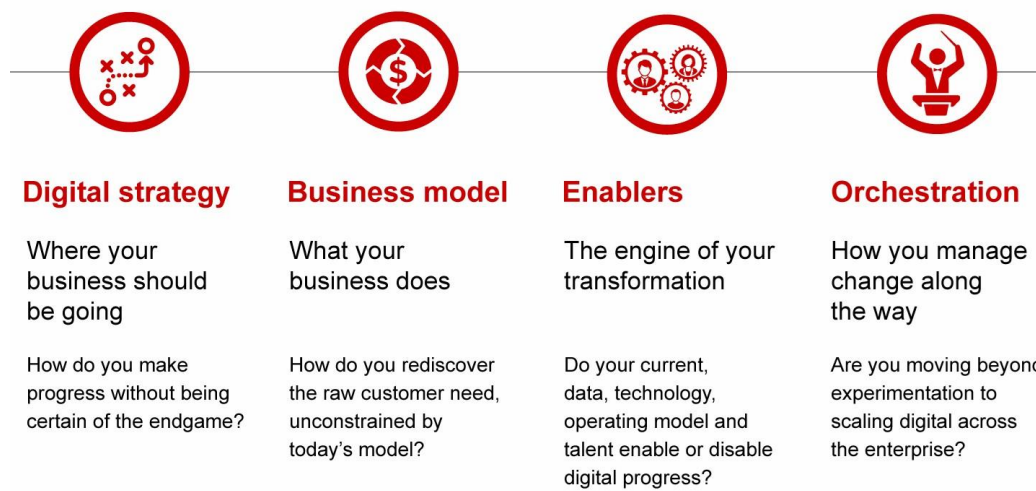


Figure 13 - Bain&Company's DT framework

The whole strategy is based on the solid foundation offered by a clear strategic goal. The first strategical step is to understand what the outcome of digital transformation is. Digital strategy is useful when it offers a compass to the firm. The more a firm is committed to one strategy, the more likely transformation is to succeed.

Literature suggestions are like business related information source. According to Bain & Company's article "Digital Transformation", managers need to conduct in-depth analysis aiming at comprehending the degree of digitization in the current environment and assess future threats. Then, develop a vision and a strategy that can be followed and that can become the goal of every future decisions. Lastly, they must mobilize the whole organization towards this goal, enabling innovation, developing appropriate operating models and build a digital-savvy leadership team.

Digital strategy can envision "today forward" or "future back". With the term "today forward", it is described the use of existing digital technology and management approaches to make a business progress, while "future back" is about imagining the future scenario and then working on the creation of the steps required to pave the way for it. A winning digital strategy requires to be able to design both.

Since DT is related to revolutionize business operations, rediscovering the raw need the business is serving is a powerful instrument to be a precursor of future environment. Nowadays, the most successful firms are the one which do not settle for supplying the same product

competitors were providing, but they went deep to the core need to develop new business model.

A product is nothing else than the temporary answer to the raw need that a business serves.

Obviously, digital transformation cannot forget the technological side inherent in its own definition. For that reason, it is no longer possible to treat business strategy and IT strategy. Business strategy sets the target of either customer engagement or developing digitized solutions, but only with IT strategy alignment this become realizable. The construction of an operational backbone must be considered as the starting point and deal with a reduced timespan for firms to implement solutions. Coding backbone from scratch will not be a competitive advantage unless some functionalities deliver an edge, and even in that case it will not last. Cloud and dedicated systems are more than an alternative.

IT strategy includes digital services backbone as well. Innovation is based on capabilities that can exploit data recorded in operational backbone or can be acquired in other ways. This type of backbone is mandatory whether firms want to be updated in terms of services offered and product/experience design and improvement.

In this scenario, finding partners to work with is key to be able to space in different skills, capabilities without requiring any firms to develop internally any new solution. Software environment is an unlimited group of businesses, solutions and functionalities, and firms need to find partners to navigate it with more knowledge.

Finally, companies can no longer think in terms of projects and operations. Business-IT teams will design and deliver technology and business services that can be defined, priced, prioritized, implemented, enhanced, and discarded. It is then important to structure themselves around their services, empowering service owners to ensure innovation and efficiency.

6. Product Analysis: Rent ‘N Move

6.1 Introduction

The work did so far is the base over which the product, conceptualized during the thesis period, has been developed. “Rent ‘N Move” is a subscription business model applied to used vehicle stock of automotive dealers, to enhance revenues of their vehicles available to sales. Before going deep in the details of the service we want to introduce the company and the business unit where this new business model has been idealized.

Engineering was founded in 1980 as a software house. A journey that began when computerization was moving its first steps in Italy and that now recognizes the company as a global player in Digital Transformation with 65 offices (in Italy, Belgium, Germany, Norway, Republic of Serbia, Spain, Sweden, Switzerland, Argentina, Brazil and the USA) and 11,000 employees around the world.

The Engineering Group designs, develops and manages innovative solutions for the business areas where digitalization is having the biggest impact: Digital Finance, Smart Government & E-Health, Augmented City, Digital Industry, Smart Energy & Utilities, Digital Telco & Multimedia. Through its activities, the Group contributes to update the business world, combining specialist competences in next-generation technologies, technological infrastructures organized in a single hybrid multi-cloud and the capability to interpret new business models. Engineering plays a leading role in research, thanks to its significant investments in R&D, by coordinating national and international projects thanks to its team of 420 researchers and data scientists and a network of academic partners and universities throughout Europe. Focusing on the office of Turin, it supplies consultancy and technology services mainly in 4 different industries: Industry 4.0, Automotive, Healthcare and Hospitality. The thesis has been developed in the automotive industry area, especially in the area helping dealers to transform their business from standard to digital. The core service of the area is process consultancy understanding how dealer works from different point of view: from information of actors involved in their business to documents storage. Despite consultancy, the group remains a system integrator so having experience on several software applications represents a plus for that activity. In fact, after a process assessment, generally a technology solution is proposed to optimize the actual dynamics.

6.2 The product

Looking to the global trends, subscription models are becoming popular in several industries. The continuous success that Spotify and Amazon are having in these years, made other businesses sensible to a business model innovation following that direction. Here, customers pay a recurring (e.g. monthly or quarterly) fee to get access to one or several models which they do not own but still have at their permanent disposal. While some OEMs (Volvo, BMW, Porsche and Cadillac) and dealerships see it to complement their existing portfolio to win new customers, many new players are exclusively offering subscription, like Cluno and Upto. According to Stefan Krause, Member of the Advisory Board at Canoo, the car of tomorrow cannot be sold via the channels of yesterday, because “the traditional way of buying and owning cars is obsolete”⁶⁴. Canoo is an electric vehicle start-up, and it is planning to offer to members only its new battery-electric cars. As we have written before, in this landscape another group is moving: mobility providers. They are looking to end the need to buy a car entirely. These companies use everything from ride sharing (BlaBlaCar, Lyft), to ride hailing (Uber, FREE NOW), and pay-as-you-go car sharing models (e.g. SHARE NOW, Flinkster). Looking around Europe, a unique and comprehensive offering has been designed by Germany-based mobility service provider: Sixt. It combines car rental, car sharing, and ride hailing in a single app (applying the dogma of “going towards integrating in a sole platform all the mobility solution”, as it is demanded by market). Trying to capture what all these players have in common we find that they approach their customers in a new, innovative way, offering attractive solutions and tightly control the customer experience.

Thanks to this innovation wave, Engineering thought to present to a famous Turin’s dealer a solution based on this business model but adjusted to the used vehicle stock. Used vehicle sales, following future trends, are destined to decline and they involve capital immobilization. These two features are negatively affecting dealer management’s minds, so in order to alleviate them we have been developed “Rent ‘N Move”. This solution is based on: a consumption contract on fixed period (i.e. 3, 6, 9 or 12 months) depending on the economics of the dealer, without any advance. The contract gives to client “coins” (1€=1 coin) and it includes continuous use of the vehicle acquired. Coins consume during time depending on the contract subscribed and whether customer decide to move to another package. In fact, another interesting feature of the

⁶⁴ Accenture, “The future of automotive sales”; 2019

solution is the switch availability: customer can change vehicle among all available package, for example they can use city car from Monday to Friday and take a SUV for the weekend without incurring any fee. This is a characteristic of each package, more premium is the choice, more switches are available. At the end of the period coins will be zero and client will decide to renew or substitute the vehicle. As we have written before, users can also decide to upgrade their range, increasing coins consumption. The change between cars and ranges is free, if it is done with 30 days of advance, otherwise fees are applied. Customer can temporarily suspend the subscription giving the vehicle back without paying any fee, only minimum coin quantity will be deducted. Pick-up and delivery service are operated, as default, in the dealer venue, but a concierge service can be a premium addition.

Looking to the customer, which are the advantages that this solution provides? She should not be stressed by property related expenses such as insurance, maintenance, tyres change and car tax. She can change car whenever she wants based on her needs: if she is frequently abroad, she can suspend the contract. Vehicle devaluation is not a problem yet and she can adapt the offer on her spending capacity.

Here, looking to the dealer side, we understand that, since they can decide which cars may be available to the service, they do not have any capital immobilization. It is important to clarify this passage: it does not work as a rent, so a specified quantity of cars is activated for that service and they are not available to sales. Here, cars remain available to the used vehicle stock but, in order to increase rotation of the car inventory, dealer can decide to activate car to the service, then there is not immobilization. In this case, if a customer is not subscribed to Rent 'N Move and she wants to buy a car, she can purchase cars allocated to the service and not still booked. If a car is booked cannot be bought. When vehicles are given back, they return available to sales or, contemporary, available to subscription.

Thanks to this type of business, dealer can leverage more on service than car, in fact, as we written in previous chapters, the real money maker areas of a dealer are services related to vehicle sales. Moreover, there is also another side of the coin, the network effect. As a matter of fact, it is possible to acquire new clients, especially young ones with a smart opportunity built for different kind of customers. Analysing vehicle available for the service, obviously, they must have specific features such as no more than 4 years, not too much kilometres and they must be in a good condition.

Now, a question naturally arises: how this solution can be managed by dealers?

6.2.1 Web Application

Dealer can enjoy this subscription model thanks to a web application developed by Engineering able to manage the automotive shifting paradigm.

The platform has the following five main feature:

- Users management
- Vehicles management
- Documents management
- Monitoring
- Reservations

With “Users management” the employee dedicated to the service have the admin interface and she can create new accounts with a username and password. She can profile users, for example the admin can activate specific section of the platform to different users (sales personnel watch different part respect the insurance operator). In the second flag salespeople approves vehicles to the service, disable cars and manage all costs and clusters (adding or removing package, and pricing all of them).

Employees will be aligned on the status of all the documents needed in order to operate in a subscription, since from the purchasing action of a customer will start the document iter. So, the third characteristic is the core of internal documents. In fact, in this tab the insurance employee can upload the jpeg/pdf of the insurance policy. Then, also the external documents can be managed: the salespeople can upload the file related to circulation such as car tax bill, logbook and warrant. Furthermore, all these procedures can be monitored in the tab watching the different status, like working, sent, confirmed.

In the “Monitoring” section the dealer employee can check the vehicle status, and which is the subscription contract trend per client.

The “Reservations” flag is very important because dealers can follow all the reservations and the related dynamics. Moreover, all the notification will be in this flag. Now it is important to zoom on details of this section because in the reservation process there is a division between temporary reservation and confirmed reservation. In fact, if the subscription has not been made in the dealer site but via app by the customer, she receives a notification to go to the dealer to end the procedure with the signature steps. Then, the employee receives the temporary reservation, and at the same time she verifies that the car selected is available. After the

completion of the signature steps in the dealer location having legal value, reservation becomes confirmed and the web application send a notification to the client. The ultimate action that the dealer can do on this tab is to manage each subscription contract and all the car use related events.

In order to give a more complete view on the dealer actions, the following figures shows the Rent 'N Move employee journey and a mockup example of the web application.

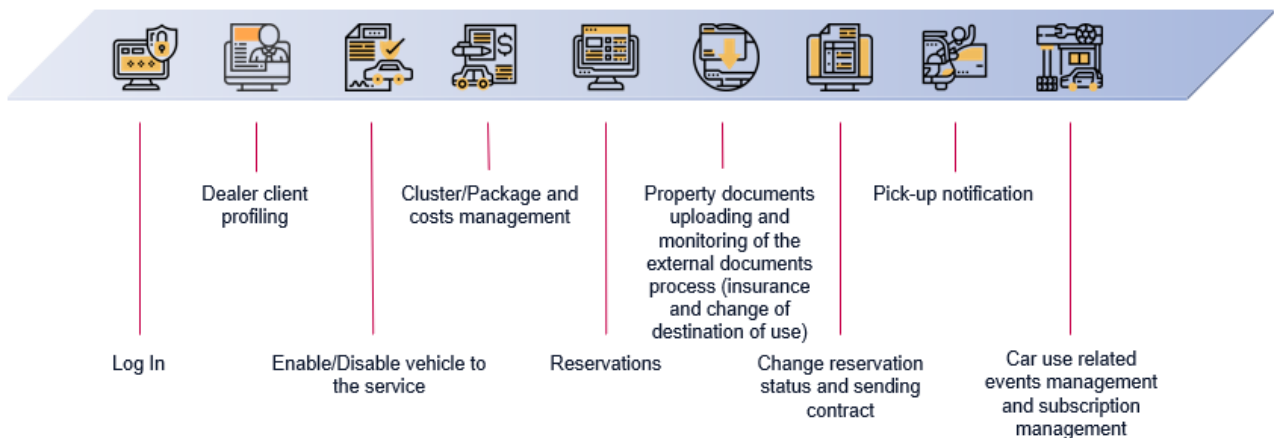


Figure 14 - RNM employee's journey

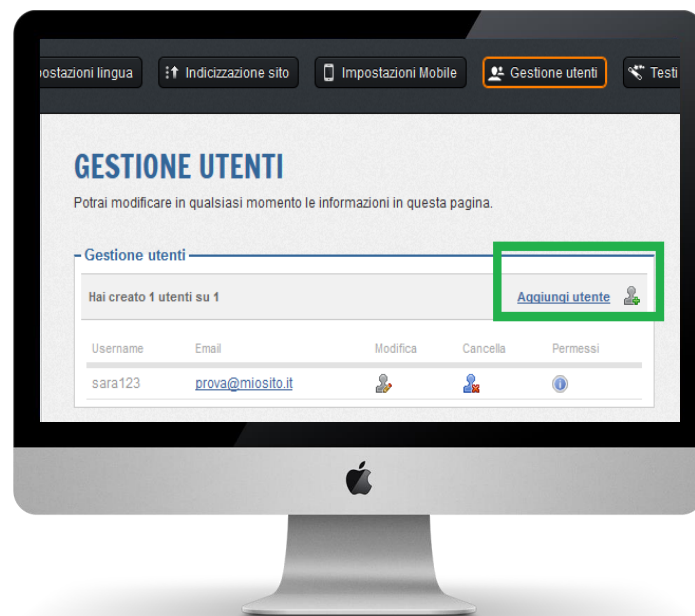


Figure 15 - RNM user management tab mockup

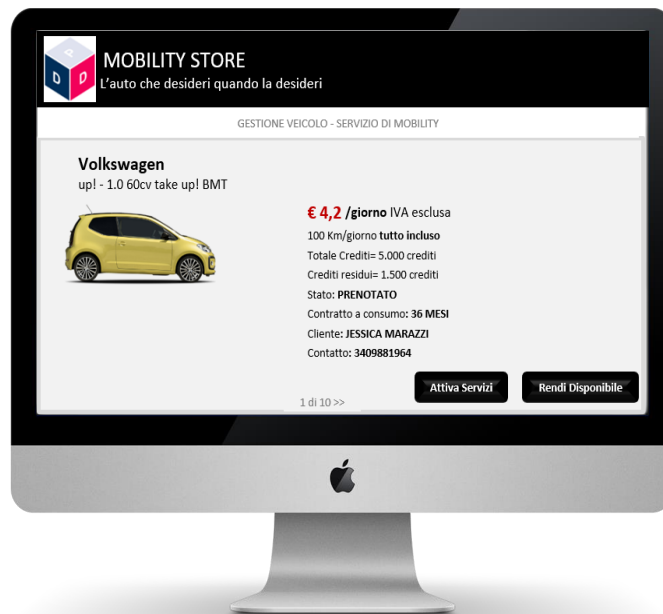


Figure 16 - RNM subscription list mockup

6.3 Customer experience

Customer experience can be easily evaluated since the solution developed by Engineering, apart from the web application for dealers, provide also a mobile application for customers. Here, users can manage their contract from the beginning to the end of the period.

The mobile application has the following five main characteristics:

- Log In
- Subscription page
- My contracts
- My profile
- Notifications

These five tabs enter in the process of the solution in different moments, and the following figure explain which is the customer journey and the related steps in the feature of the mobile application.

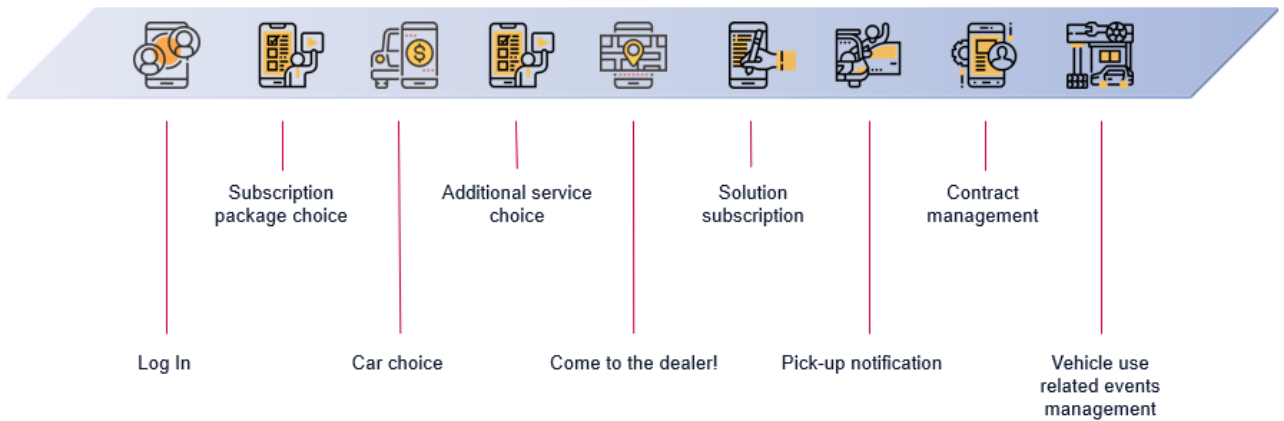


Figure 17 - RNM customer journey

The customer enters in the mobile app via log in where she creates a new account or use a social network, then she gets into the subscription page where she sees all the package available. In this tab users can choose which vehicle segment she prefers, then each segment contain several cars and, after the user have chosen the segment, she chooses the specific car needed. After that, there are additional service/optional such as a second driver option. Then, if the procedure is completely done by remote a notification appears, and the mobile application invites the customer to come to the dealer to complete the procedure with signature step. When the client is in the dealer venue there is the digital signature by application and the document archiving. The contract management and events phase is managed by the specific tab where the user can see: the subscription status, the modification of the subscription, the switch vehicle management, the temporary suspension, the early closing of the contract, the maintenance request and SOS call, the insurance claim warning and theft notice. In the last tab, “My profile”, customer can find: biographical information and the historic sequence of all the notifications, such as place and time of the first pick-up, the confirmed delivery by the dealer or by the client if the contract finishes, the happened subscription change or switch vehicle.

The following figure shows an example of mobile application mockup.

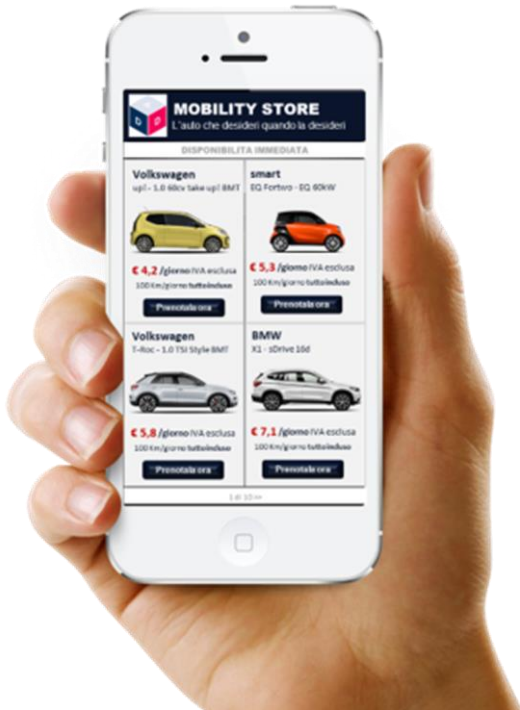


Figure 19 - RNM mobile app subscription list mockup

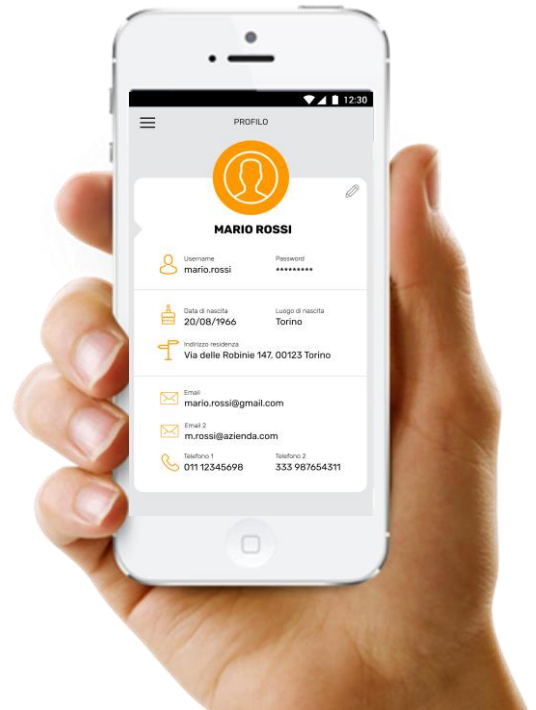


Figure 18 - RNM mobile app user profile mockup

6.4 Strategic & Operational Plan

6.4.1 Vision and Mission

The product itself is undoubtedly innovative, due to the way it is developed and designed. For example, the coin idea winks to the gamification trend which is affecting several business areas especially the information technology. The mission is to innovatively sell a solution that align dealers to the changing mobility requirements, without being too much heavy on the dealer's statements.

The vision emerges from experts' interview and researches in the mobility field, as it is well treated in the Chapter 2, and SWOT analysis help us to better grasp it and to summarize. Actually, the strengths are the all-inclusive option, the flexibility given to this business model, and the switch option which is the real rare factor. At the same time there are also weaknesses,



Figure 20 - SWOT analysis

such as the platform cost, that we will treat after, needed to manage a product like this one, and providers immaturity. By the way, as we have written in the second chapter some opportunities are rapidly arising: changing demand, such as the moving trend of people from city-center to suburbs highlighted by the survey did by Accenture in the “Mobility services: the customer perspective”, and digitalization, and if providers are not enough rapid to gain a market share big providers will cannibalize the market together with other more mature dealers.

The figure 20 formally and schematically shows the strengths and weaknesses of this strategic vision.

In conclusion, to sustain weaknesses, what mainly emerges from the client we have used to study the economics feasibility is that this model is very interesting especially for big providers, such as Leasys or ALD automotive. From a dealer point of view, it is more difficult to be applied since there is more human relationship and more personal engagement and a potential problem in a business segment can affect all the others and the relationship between customers and administration. Furthermore, dealers are still not so much sensible to this changing demand, showing a sort of immaturity. In addition, high development expenses make the implementation even more difficult due to the absence of an integration layer and a data aggregator that are the structure where web and mobile application are built.

6.4.2 Business model

The figure 21 shows how this solution has been economically structured. As you can see there are five main key activities to perform to give life to Rent 'N Move, and they are: business model conceptualization (in order to understand how the solution works and how to give life to it), software development (to have the web application and the mobile app), reconditioning (we use used vehicle and as a client we would want clean and accurate cars), customer care/assistance (loyalty campaigns and assistance that is nowadays fundamental especially for not new products), and business identity (through focused and clear advertising and correct sales procedure in order to gain a definite position in a market that is not already aware of this kind of solution and it only knows standard sales, rent and sharing). Since business development and coding are not properly in the dealer's core business portfolio some partners are needed, such as advisors, hardware and software suppliers. To run the business all the document must be compliant, so Public Administration has a crucial role, together with insurance companies. If we think about which employers are important for this solution, the figure, in the key resources section, explains in a clear way how much is simple RNM from this point of view.

After this introduction, now we deeply analyse which are the cost and revenue pillar of this model, moving finally to the value proposition highlighted in the previous chapters.

In the figure we can understand which are the main costs: HR salaries, paperwork's, administration, vehicle reconditioning, and car use related costs: insurance, maintenance, tyres, taxes, and devaluation (in the last chapter we will analytically evaluate those costs giving them real value). The revenue stream is obviously related to the value proposition: an integrated and user-friendly platform providing an all-inclusive subscription with vehicle switch opportunity and possible additional optional applied on the used vehicle stock of the dealer. Rent 'N Move is based on a strong customer relationship built on personal assistance and vehicle maintenance support. The solution is studied for smart and young people living in the suburbs of big cities. In fact, as we have written in chapters 3.1 and 3.2.1, there could be two modern personas attracted by this kind of solution: the modern one and the young range of the transitory one, in addition, in the future more and more people most probably will decide to move to suburbs, an unserved market area by sharing mobility and other actual solution. As a matter of sales channels, it will be advertised by three main ways: Website, digital marketing and word of

mouth.

If we want to draft a VRIO analysis what can we find? Surely this solution is valuable since it can create value thanks to the moving demands from property to access. Secondly, generally and especially in Italy, now, it is rare because only Leasys launched a very similar solution, but we should bear in mind that they are big provider not dealers with all the pros and cons annexes (scale economies vs capital immobilization). Moreover, in America some OEM are launching and have launched pilot subscription business model in certain geographical area. Obviously, it is an imitable business even if dealer must have certain data in order to be feasible, such as a stock rotation index below certain value. As regards of the organization, it is simple, and it can be easily replicated.

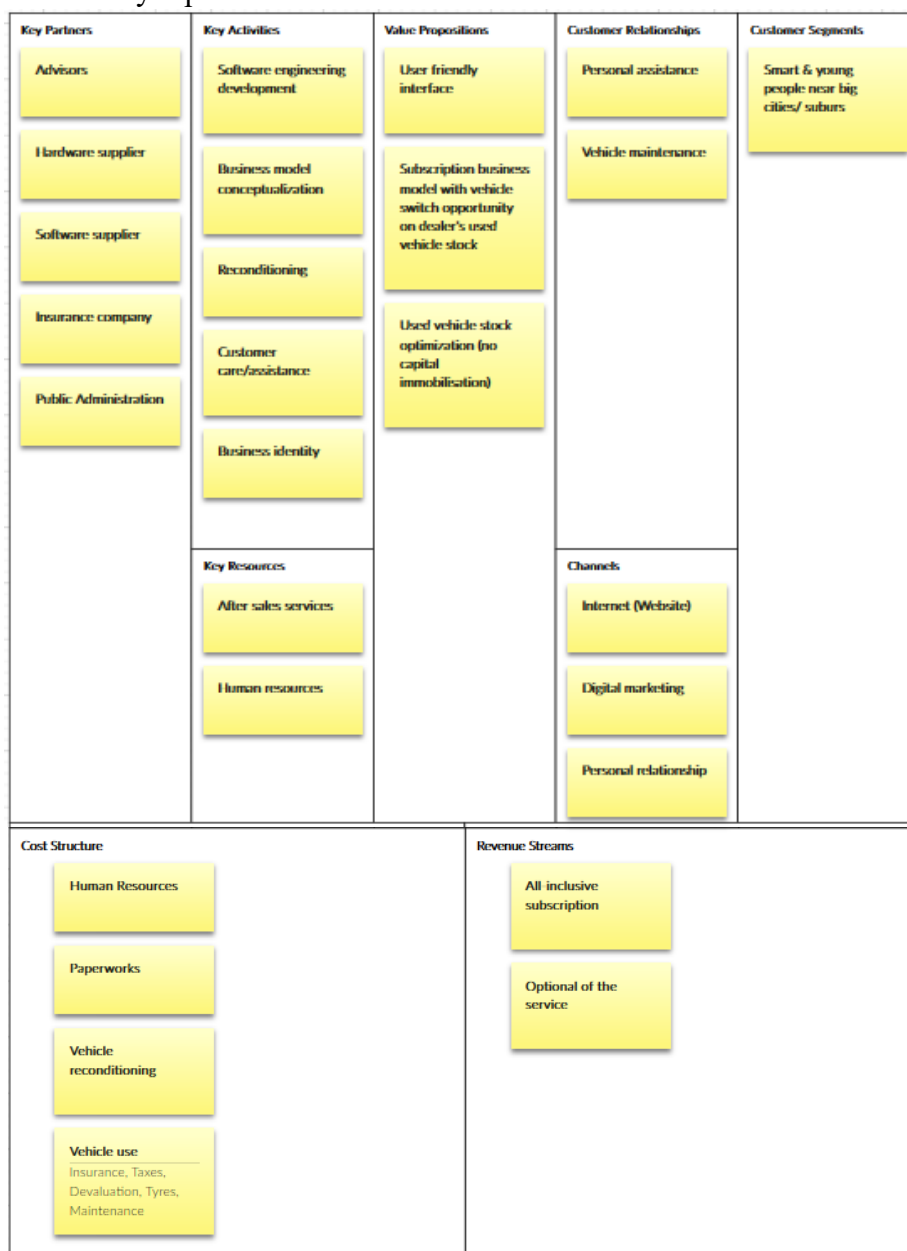


Figure 21 - RNM Business model canvas

6.4.3 Competitors benchmarking

Rent 'N Move pricing has been accurately decided running a deeply competitors benchmarking worldwide and in the specific area of application of the pilot. We have divided this evaluation in three different steps: general potential competitors, short-term rent providers, and worldwide similar business models. The first area has been performed as an introductory analysis in order to understand if there are in Europe and in Italy companies developing a subscription business model or something attracting customers in the focus area. Then we have been analysed which is the pricing of the short-term rent carried out by the main actors in Turin's zone. Alongside we kept our eyes also on America, since, as everyone know, they are often the first movers in innovative business models, and we have captured something interesting for us. As a matter of pricing we highlight that we have supposed three segments of cars in our platform: segment A, such as Fiat Panda, segment B, i.e. Fiat 500X and segment C, like Jeep Compass. This division will be useful in the second analysis which is the base of the RNM price tag strategy. In order to not confuse the reader and giving a clearer view of this section, we attach the Excel files of the benchmarking and the economics analysis. In the first one we can find the complete analysis we have performed in terms of competitors: from minimum/maximum duration, to solution and included services for each step.

As regards of actors, in the first analysis we find seven different operators:

- Leasys
- ALD
- Cluno
- Authos
- Upto
- Volvo
- Trivellato

In the second evaluation we find three providers:

- Leasys
- Arval
- GiMax

In the last analysis we find thirteen suppliers:

- BMW

- Zip Car
- Cox Automotive
- Porsche
- Cadillac
- Innovative Automotive Pty Ltd
- Flow Automotive Company
- Warren Henry Auto Group
- Bernie Moreno Companies
- Germain Motor Company
- Jeff Wyler Automotive
- Park Place
- ALD

6.4.4 Sales forecasting

In our model, to support financial results during the next 10 years, we supposed an entry sales quantity of car and the future percentage of Rent 'N Move fleet enabled to the service. In details, we supposed 20 cars of segment A, 15 cars of segment B and C. Then in the second year we supposed an increase of 150% and 200% from the third year to the tenth (percentage are referred to the initial quantity, so in the period 3-10 years, there are no changes in the RNM car fleet). We are bearing in mind that in the second year we would be in the 2021 so the changing demands will be more important than now, and dealer will be more sensible. We supposed also an adjustment of the demand after the third year to also avoid creating problem for dealers from a car fleet point of view (needs of purchase more and more used vehicles that would increase the investment costs) since until the third year the model can be supported with the actual car inventory.

Numerically we find the following values:

- 2° year: 30 segment A, 23 segment B and C
- 3° year – 10° year: 40, 30, 30

6.5 Economics Model

6.5.1 Subscription cost structure

One of the pillars of each business model is the cost structure, the more it is well defined the more there will not be surprises when pricing strategy will be decided. In our case we have general fixed costs, specific per segment fixed costs and variable costs. The first ones are salaries (two people, eight hours per day, full time equivalent) and seat costs. They have been allocated to the car fleet; the second ones are paperwork's (changing of the destination of use that happen two times, one when it is changed from available to sales to rent and vice versa, 50€ per change), reconditioning, car tax, insurance and devaluation (the last three voices change based on the segment, the other two are constant). Then, there is the third category, variable costs, such as tyres wear and maintenance (in details, devaluation can also be considered a variable costs, but since its evaluation is not easy, for a practical use, we have defined as devaluation costs of 10%/year of the purchasing price, given a supposed distance covered). Variable costs have been evaluated by the multiplication between kilometres supposed to be run in a year and a coefficient found in ACI table kilometres costs. From a mathematical side, we have calculated all the costs on year base and per car, a part of salaries and seat costs (only per year), as we can see in the economics file both with model and not. We mind that in all the sheets all the yellow cells correspond to data entry, and that to our client we delivered the file without the model since it was too difficult to understand for them.

In our costs layer we have also considered switches, since they trigger paperwork's costs if customer choose a car not already enabled to the service. Furthermore, we have followed the following strategy: one switch included every three months, supposing that 20% of the cars chosen were already enabled to the service so the paperwork's do not need to be paid and we have made an average of the total switches per year without the 20% ($\text{average} \times 80\%$). This result is multiplied for the reconditioning and paperwork's costs.

Then we have evaluated the total daily cost, for the initial year, per car belonging to each segment, for a specific period a car is enabled to the service by the following formula:

$$[(Salaries + Seat costs) / Car fleet] / Days per selected period + [Total variable costs per segment + Devaluation costs \times Days per selected period / Days per year + Insurance costs + Car tax + (Paperwork's costs + Reconditioning costs) \times Average switch] / Days per selected period$$

Analysing this formula, we can find the more the car fleet increase the heavier costs, such as fixed ones, are reduced, making this model scalable. Moreover, also selected period has a crucial role since the big part of costs have been treated as annual, and the less the car is enabled to the service the more those costs become important, i.e. variable costs are evaluated annually supposing a certain distance that obviously can be managed with optional service. Documents are not related to period, so the more cars are used the more they are negligible. As we can see in the excel files of economics analysis, several values have been taken bigger than they are trying to be safe in the model and to prove the feasibility of the project. For example, if a car is used only for a half of a prefixed period it will run generally less kilometres and it will have less devaluation and less variable costs, but these facts always depends on the way client use subscription cars. There can be cars used for six months that are worse than cars used for a year. Practically, as we can see above, in the formula we have considered qualitatively this fact using the multiplication factor *Days per selected period / Days per year* in order to burden the cost based on the selected period.

Another assumption example is that allocation does not imply any costs. At a first glance it is not so precise since there are costs related to people needed to run the business, but they can be assumed negligible if the first reservations are temporary allocated to already hired resources. Once again, reconditioning is allocated also to the first car enabled to the service even if is not true since are used vehicle car that do not need reconditioning, by the way we are writing about 100€ per car on an annual base and it is negligible in a situation of the sales forecasting hypothesis. The last assumption is about building spaces. In fact, in our example we have not considered any building new spaces cost for this business since the client has shared with us that they would have already a space ready to be allocated. In other cases, regulations require an ad hoc space for each business, such as rent in an area, sales or insurance in another.

Anywhere, we mind that all the values have been shared between client, analyst and manager. Defined which is the daily cost for a car belonging to a specific sector, we have settled the price analysing the short-term rent price applied by Arval and GiMax since they better mirror the market. In particular, after having calculating the average price we have defined how much we

would like to be below the minimum price charged by them, in our case 25% for 12 months, 5% for 6 months and about 2% for 3 months, than the margin has been calculated as consequence. In fact, our daily price for a Panda for 12 months of service is 12€, 381 €/month, respect 16,8 €/day and 22,12 €/day charged by competitors. In this case the margin is about 15%. As we can see from the files mentioned above, the more the segment is premium the higher are margins, respecting the trend highlighted in the benchmarking: the main subscription actors in America are premium OEMs. This is because costs and revenues are more misaligned than cheaper cars, higher costs are supported by more higher margins than cheaper cars. This analysis makes another interesting detail arise: segment B and C guarantees high margins for longer period of service but for short periods (like 3 months) they are not competitive. As a matter of fact, to ensure -2% of the minimum price charged by competitors we must sell the 3-month solution at cost. Those outcomes, apart from our cost structure and strategy, are surely affected by the competitors pricing strategy.

Lastly, as we have written before, the more is the car fleet the more fixed cost are muffled, and margin are boosted.

6.5.2 The optimization model

The optimization model is based on a simple assumption: in order to be competitive, the number of cars enabled to the subscription should create a profit higher than if there are left to the used vehicle stock available to sales. As a matter of fact, as we have already written in the previous chapter, this solution represents an optimization of the used vehicle stock since we can create profit with stopped car. In the economics file with the model, we can see how we have structured the work: the left table is where we optimize the profit function, on the right there is the table where we do comparisons between used vehicle sales results and subscription. We have been made it to help us in interpreting the trial and errors cycles of the model.

In fact, this has been our methodology of work: trial, reason and error. We have been used this way since we have not ever treated non-linear programming model at university but only linear model. So, we have used the Excel solver with GRG non-linear engine, and we have tried to understand if the solution has sense or not.

Firstly, we would like to briefly analyse which is the cost structure of the used sales: insurance for a half of the car fleet. This extremely simplicity of the structure is because our reasoning is based on an incremental concept for devaluation, so subscription coefficient is 10% more than

the used one. There is not additional reconditioning or paperwork's, neither any car tax nor variable costs. Moreover, the dealer partner of this project has shared with us that on used vehicle there is about 10% margin on the purchase price, so also fixed costs are not taken into account since we do not know how heavy they are and we consider this margin percentage at the net of those costs. This revenue then is evaluated after deduction of purchase price and operative cost and divided by days of storage, finding the daily profit of the sales given the storage (i.e. Fiat Panda has 40 days of storage and a margin of 778€, it means that each panda makes 778€ each 40 days, 19,44€ profit per day). At the same time, in order to find which is the opportunity cost of enable a car to the Rent 'N Move solution, we have to run the non-linear programming model.

The optimization model is based on a profit maximization objective function, the profit is the daily and potential one given storage and used vehicle stock volumes for each segment. The model is described as follows:

$$\begin{aligned} \max \quad & \sum_{i=A}^C X_i \times (P_i - C_{toti}) + \sum_{i=A}^C (V_i - X_i) \times (P_{si} - C_{stoti}) \\ \text{s.t.} \quad & \\ & X_i \leq V_i \quad \forall i \\ & X_i \geq 0 \quad \forall i \end{aligned}$$

What this model calculate is the variable X_i , representing the number of cars per segment to enable to subscription service in order to maximize the daily potential profit. The first sum represents the subscription profit as quantity of car times profit generated per car, the second sum is the remaining profit from sales, as remaining car available times the sales profit. In the rows below the objective function there are constrains to variable: the first one lock the number of cars to be enabled to use vehicle stock volumes, the second one settled the variable greater than or equal zero. The opportunity cost is the profit generated by the solution calculated with the 75% of the minimum price chargeable, it comes from pricing strategy, as we can see in the table (it is the 12 months solution daily price).

After this introductory explanation we understand why the model is non-linear: there is the multiplication between X_i and profit and the latter depend itself by the quantity allocated X_i . Price is fixed from the strategy, but costs are related to car fleet, so they fluctuate together with margins.

This model is very flexible since can be changed as the analyst want, for example we can settled an additional constraint that is subscription profit greater or equal to sales profit and evaluate which will be the variable. Another solution, more complex since we are in mixed integer non-linear programming, is to insert two variables: X_i and Z_i , the last one is a binary variable (1=service enabled, 0=service not enabled). The simpler and easier to understand is still the first one since it is a simple profit maximization and do not make heavy assumption. In fact, the second one with the additional constraint takes for granted that Rent 'N Move is enabled but maybe is not the optimal solution, a local optimum not a global one. The third one can be substituted by the first. In fact, if subscription is not profitable respect sales, quantity will be zero without adding another variable that will be zero as well.

By the way, our outcome is so interesting: the optimization model gives no profitability of the solution since the storage of the used car stock is so low (40 days for segment A, 60 days for segment B and 90 days for segment C) and there is nothing to optimize. Here, another interesting topic arises: which is the needed storage that the dealer should have to start the business? The model can be also adapted to solve this problem, increasing its difficulty due to the non-linearity, inserting storage as variable. Due to solving difficulties, we have found the storage data that activate car to the service manually, with a cyclical trial and error, and this action bring an approximated result of: 116 days for segment A with 32 cars activated, 166 days for segment B and 10 cars activated, and 202 days for segment C with 5 cars activated.

After all the description the situation can be confusing since the model gives an advice about car fleet to be allocated to the subscription park, but we have written several times that this model does not require capital immobilization and a dedicated park. In fact, the model gives the optimal quantity to be sold with a subscription service given specific parameters, so the dealer can act in two main ways: the first one is to decide to allocate that specific number of cars and hope all of them will be booked, the second one is to allocate all the car to the service and one's the quantity is reached it can remove the remaining part. Please let us remember that from our assumptions, allocation does not imply costs, once a car is booked then costs are triggered, such as paperwork's.

In the economics file we can see the model run with original storage data and modified one, and we can see the huge profit difference between the two results.

We remind that we are analysing potential profit and we are aware that the model can be improved.

The following final chapter will analyse all the financial result if the business would be started

with the sales forecasting data.

6.5.3 Financial results

Now, as a final output and in order to give a complete view about this project and business plan we have also evaluated all financial parts as operative costs, investment costs, debt analysis and income statement. Our financial analysis has been made with ten years horizon. As we can see in the economics file without the model, there are all the operative costs that the dealer should have to run the business given a specific car fleet enabled to the service. Variable costs obviously will increase from year one to year three, all the other remain constant. In the investment cost there is the sum of cost due to the platform development provided by Engineering Ingegneria Informatica and the estimated life of the platform. We mind that we have not taken into account any advertisement costs since we have supposed that there are no extra ads and simply a switch of product advertised. Then in the debt analysis all possible financial cost due to a medium/long term loan are evaluated given some input as commission percentage, debt interest and maturity date. The last tables are Income statement with profitability analysis and related graphs. Here, it is calculated the net profit during ten years thanks to the service with an input tax coefficient, the internal rate of return for three, five and ten years, the Net Present Value and the Payback period. An interesting input is the number of dealers accepting to adopt the solution. This input has been chosen since the client we have worked with is a part of a group of several dealer, and if the solution is also run by other dealer belonging to the group, the investment is split between all the participants.

Numerically, with the sales forecasting we have written before, a 120.000 € of platform cost as an investment, and supposing only our client supports the investment, the dealer has an EBIT of 46.564 € the first year, 114.168 € the second year and 182.691 € from the third year without any financial cost. As regard of investment analysis, given a 6% discount rate, the 3 years IRR is 37%, the payback period is 2 years and the NPV is 661.679€.

7. Conclusions

The economy is shifting from the concept of property to the concept of access, in which customers change their preferences to accomplish the need of more solutions. The mobility market has been affected by this trend: the consumer preferences involved the temporary access as an expression of consumer desire and experience. New mobility providers have entered in the market with integrated mobility platform to contemporarily solve efficiently different needs. In this scenario, private car ownership is mined by new car access solutions that are more flexible and that solve the need of mobility: long term car rental for privates, car sharing, ride sharing and subscription business models are becoming more common in the Italian market. Electric and autonomous car, together with the shift in consumer preferences, are some of the driver of the emerging car-as-a-service market.

The shift to an access-based approach in the industry is clear from the decline in privately-owned cars: recent trends have shown a growing adoption of long-term car rental and of car/ride sharing rate of utilization, especially in urban areas. Indeed, the entire automotive value chain is affected by the shift from car ownership to car access. Regarding the distribution network, the situation is far more complicated: car dealer's primary source of revenues is the sales of car, both new and used ones. On top of it, dealers are offering selling components and parts, they often own a repair area and they offer additional services such as leasing, and financing ones and the most advanced dealer groups are offering long term car rental solution for privates together with car makers companies. In the Italian market the competition among existing players is quite high, since the market is saturated. The mobility-as-a-service and car-as-a-service industry are expected to grow in the future and it means that, especially in urban areas where alternatives solutions to private car are common and spread among consumers, lowering the margins of sales of vehicles.

As said before, since the car need can be solved in alternatives ways, new actors are trying to create a direct contact with the final customer with a customized solution based on car access. On the opposite side, customers are more informed, and this gives less importance to dealers in the purchasing process, as opposed to how it was before the spread of internet, where dealers assumed a fundamental role for the driver. Nevertheless, dealers can catch the opportunities created by the shift from car ownership to car access: they can expand their activities, as the biggest international dealer groups are doing. Dealers have high expertise and they have the

characteristic of the capillarity, that puts them in a unique position in the market and for the customer.

The possibility to collect data from the vehicles and the digital transformation are big opportunities that, if properly managed, can give to the dealer the possibility to enter in the car-as-a-service market.

In conclusion, it can be said that dealers in five years could become mobility providers, they are likely going to offer on the market car sharing solutions with their vehicles or with cars dedicated to this new line of business. In fact, Rent 'N Move goes in this direction trying to give an alternative to already existing problems, but, as we mentioned above, is not for everyone and the investment cost together with the dealers' management mindset still not sensible enough to these trends are the real obstacles. Most of managers in this business have inherited their work and they haven't an economic or entrepreneurship background. They have practice culture not related with theory and research, so if they do not see, if they do not put their shoes in to problems they do not believe in them, as we wrote before: lack of medium-long term vision.

8. Acknowledgements

Now it is the time to say “Thank you so much” to all people having help and support me. First of all, thanks professor Silvano Guelfi to have accepted to be my supervisor for this project. Great thanks go to Paola Di Bella, my firms tutor that has follow me during these months. We have been created a good relationship and she has been taught me lot of things not only in the thesis area. Many thanks to Alice Poroli that introduced me in the Engineering team of work, and she has supported and endured me a lot during these internship months. I give to her a big good luck for her new adventure abroad. I have to congratulate with all people I have work with during this project period: Domenico Murabito, Simone Soresina, Sarah Tornavacca, Elisa Sinigaglia, Marco Pongan and Giuseppe Pulice. I really congratulate with all other people I have been collaborate so far.

Now a special thanks go to my family that has allowed me to have this incredible university journey and this amazing life.

A huge congratulation goes to my girlfriend Elisa that there has been both my graduation. She is incredible and so special.

A big hug goes to all my friend they make me laugh and loved so far, both in a good and sad period.

I hope I do not lose anyone, by the way, I would congratulate so.

9. Bibliography and Webography

- McKinsey & Company, “Automotive revolution – perspective towards 2030”; 2016
- Roland Berger, Automotive Transition, “A CEO agenda for the automotive ecosystem”; 2016
- ACEA, <https://www.acea.be/industry-topics/tag/category/electric-vehicles>
- ABI Research
- PwC, “The 2018 Strategy and Digital Auto Report. The future is here: winning carmakers balance metal and mobility”; 2018
- www.medcraveonline.com
- John Humphrey and Olga Memedovic, “The global automotive industry value chain: what prospects for upgrading by developing countries”; 2003
- B. Saberi, “The role of the automobile industry in the economy of developed countries”. *Int Rob Auto J*; 2018
- Dietz, “Value Chain Governance that Benefits the Poor”; 2018
- OICA, International Organization of Motor Vehicle Manufacturers, “World motor vehicle production”; 2017
- Statista, “Revenue of the leading car manufacturer worldwide”; 2017
- B. Saberi, “The role of the automobile industry in the economy of developed countries”. *Int Rob Auto Journals*; 2018
- Accenture, “Mobility services: The customer perspective”; 2019
- McKinsey & Company, “Ready for inspection – the automotive aftermarket in 2030”; 2018
- Gissler, Karwehl, Kunkel, “The future of Automotive aftersales”, Accenture; 2015
- Fichamn, Robert G, Dos Santos, Brian L, and Zheng, Zhigiang, “Digital Innovation as a Fundamental and Powerful Concept in the Information Systems Curriculum”, pp 329- 353; 2014
- Osservatorio Nazionale Sharing Mobility, “3° rapporto nazionale sulla sharing mobility”; 2018
- Perboli, Ferrero, Musso, Vesco, “Business Models and tariff simulation in car-sharing services”; 2018
- E&Y, “Automotive retail 2030”; 2018

- Europe Group Consulting, Reports, “Automotive finance study 2016, The European market and its future challenges”, Next Continent; 2018
- Italia Bilanci, “ADR Automotive Dealer Report”; 2018
- www.motork.it
- McKinsey & Company, “Retail Innovation Consumer Survey”; 2013
- Bain & Company, “Global Automotive Consumer Survey, The Future of Car Sales Is Omnichannel”; 2017
- www.autoscout24.it
- Automotive News Europe, “2018 Guide to Europe’s Biggest Dealer Groups”; 2018
- www.autonews.com
- R2RC, “The new competition law framework for the automotive aftermarket”; 2010
- Italia Bilanci, “ADR Automotive Dealer Report”; 2017
- Quintegia, “Crescono ancora i Top50 Dealer in Italia: quali sono i Top5?”; 2018
- ICDP, “Reports”; 2017
- PwC, “The 2018 Strategy and Digital Auto Report. The future is here: winning carmakers balance metal and mobility “; 2018
- S. N. Kaplan, “Mergers and Acquisitions: A Financial Economics Perspective”. *University of Chicago, Graduate School of Business Working Paper*; 2006
- M. C. Jensen, “Agency Costs of Overvalued Equity”. *Harvard Business School*; 2004
- G. Andrade, M. Mitchell, and E. Stafford, “New Evidence and Perspectives on Mergers,” *Journal of Economic Perspectives* 15: 103–120; 2001
- L. Erel, R. C. Liao, and M. S. Weisbach, “Determinants of Cross-Border Mergers and Acquisitions”. *Journal of Finance* 67: 1045–1082; 2012
- R. D. Buzzell and B. T. Gale, *The PIMS Principles*. New York: Free Press: 279; 1987
- R. Cibin and R. M. Grant, “Restructuring among the World’s Leading Oil Companies”. *British Journal of Management* 7 (December 1996): 283–308.
- D. C. Hambrick and S. M. Schechter, “Turnaround Strategies for Mature Industrial-Product Business Units,” *Academy of Management Journal* 26 (1983): 231–248.
- C. Boone, G. R. Carroll, and A. van Witteloostuijn, “Resource Distributions and Market Partitioning: Dutch Daily Newspapers 1964–1994”. *American Sociological Review* 67: 408–431; 2002

- W. Chan Kim, Renée Mauborgne, “Blue Ocean Strategy”. *Harvard Business Review*; 2005
- National Science Foundation, *Research and Development in Industry*: 2002 (www.nsf.gov/statistics/industry).
- Robert M Grant, “Contemporary Strategy Analysis”. *Wiley*; 2016
- B. J. Pine and J. Gilmore, “Welcome to the Experience Economy”. *Harvard Business Review* 97–105; 1998
- Davies, T. Brady, and M. Hobday, “Organizing for Solutions: System Seller vs. System Integrator,” *Industrial Marketing Management* 36: 183–193; 2007
- P. S. Barr, J. L. Stimpert, and A. S. Huff, “Cognitive Change, Strategic Action, and Organizational Renewal”. *Strategic Management Journal* 13: 15–36; 1992
- K. R. Harrigan and M. E. Porter, “End-Game Strategies for Declining Industries”. *Harvard Business Review*: 111–120; 1983
- John C. Henderson, N. Venkatraman “Strategic Alignment: A process model for integrating information technology and business strategies”. *Cambridge, Mass.: Center for Information Systems Research, Sloan School of Management, Massachusetts Institute of Technology*; 1989
- Yolande E. Chan, Blaized Horner Reich, “IT alignment: what have we learned?”; *Journal of Information Technology* 22, 2007
- George Westerman, Claire Calmèjane, Didier Bonnet, Patrick Ferraris, Andrew McAfee, “Digital transformation: a roadmap for billion-dollar organizations”. *Capgemini Consulting and MIT Sloan Management*; 2011
- M. Fitzgerald, N. Kruschwitz, D. Bonnet, M. Welch; “Embracing Digital Technology: A new strategic imperative”. *MIT Sloan Management Review*; 2013
- Gabriele Piccoli, “Information Systems for Managers”. *Wiley 2nd Edition*; 2012
- Mata, Francisco; Fuerst, William; and Barney, "Information Technology and Sustained Competitive Advantage: A Resource-Based Analysis". *MIS Quarterly*; 1995
- Jeanne W. Ross, Ina M. Sebastian, Cynthia Beath, Martin Mocker, Kate G. Moloney, Nils O. Fonstad, “Designing and Executing Digital Strategies”; *Thirty Seventh International Conference on Information Systems*, Dublin; 2016.
- Behnam Tabrizi, Ed Lam, Kirk Gerard, Vernon Irvin, “Digital Transformation Is Not About Technology”. *Harvard Business Review*; 2019

- Glenn Cook, “Customer experience in the omnichannel world and the challenges and opportunities this presents”. *Journal of Direct, Data and Digital Marketing Practice*; 2014
- Michael E. Porter, James E. Heppelmann, “How smart, connected products are transforming competition”. *Harvard Business Review*; 2014
- The Boston Consulting Group, “It’s Not a Digital Transformation Without a Digital Culture”; 2018
- McKinsey Digital, “Digital transformation: The three steps to success”; 2016
- Accenture, “Digital Trasformation – Re-image from the outside-in”; 2014
- The Boston Consulting Group, “Omnichannel Shop Experience Audit”; 2018
- Accenture, “The future of automotive sales”; 2019